1990-91
ANNUAL
REPORT

ANIMAL INDUSTRY DIVISION

Alberta
AGRICULTURE

ANIMAL INDUSTRY DIVISION

ANNUAL REPORT

APRIL 1990 - MARCH 1991

ALBERTA AGRICULTURE

#204, 7000 - 113 Street
Edmonton, Alberta
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ALBERTA AGRICULTURE
ANIMAL INDUSTRY DIVISION
1990-1991 ANNUAL REPORT

TABLE OF CONTENTS

Staff List
General Comments

BEEF CATTLE & SHEEP BRANCH

Page

I. Industry Overview

A. Beef Cattle 1
B. Sheep 3
C. Game Farming 5
D. Bison 7
E. Llama 8
F. Alpaca 8
G. Animal Nutrition 8
H. Regional Summaries
Region 1 11
Region 2 13
Region 3 14
Region 4 17
Region 5 18
Region 6 19

II. Programs

1. Federal-Provincial Beef R.O.P. Program 20
2. Beef R.O.P. Weight Supervision Program 22
3. Bull Test Stations 23
4. Reproductive Physiology 24
5. Semen Evaluation Laboratory 24
Table 1 25
Table 2 26
6. Artificial Insemination 26
7. Game Farm Extension 27
8. Warble Control 28
Table 3 28
9. Livestock Production Improvement Program 28
Table 4 29
10. Black Fly Abatement 29
11. Alberta Ram Test Station 30
Table 5 31
12. Sheep R.O.P. Home Test Program 31
Table 6 31

BEEF CATTLE AND SHEEP BRANCH Continued

	Page
13. Alberta Angora Goat Performance Test	32
Table 7	32
14. Beef Herd Management Program	32
15. Issues in Beef Production	33
16. Feed Analysis Service	34
(a) Total Samples Analysed	34
Table 8	35
Table 9	35
(b) Frequency of Sample Submissions	36
Table 10	38
(c) Type of Regular Feeds Submitted	36
Table 11	39
(d) Type of Analysis Requested	36
Table 12	40
Table 13	41
Table 14	42
17. Feeding Programs	43
Table 15	44
18. Livestock Predator and Beeyard Compensation Programs	45
Table 16	47
Table 17	47
Table 18	48
Table 19	49
III. Research and Development	49
(a) Reproduction	49
(b) Livestock Entomology	50
(c) Beef Management	51
(d) Sheep and Goats	52
(e) Feeding and Nutrition	52
(f) Animal Performance and Growth	53
(g) Beef Cattle Management, Production Economics and Surveys	54
(h) Other	54
(i) Animal Genetics Discussion Group	55
(j) Papers Presented at Scientific Meetings.....	55
(k) Technology Transfer	57
(l) Publications in Referred Journals 1990/91	57
(m) Research Update	59
(n) Changes in Software and Mainframe Support	59
IV. Technology Transfer	60
(a) Workshops, Extension Meetings and Field Days	60
(b) Mass Media Presentations	61
(c) Requests for Service	62
V. Staff Development	62
VI. Staff Changes	63

DAIRY PROCESSING BRANCH

		Page
Overview		65
Dairy Manufacturing Plants		65
Dairy Products		68
Licensing		69
Regulatory		69
Margarine		70
Regulatory Enforcement		70
Extension		70
Special Projects		72
TABLE I	Estimated Production and Value of Factory Dairy Products	73
TABLE II	Alberta Dairy Statistics 1960-1990	74-75

DAIRY PRODUCTION BRANCH

General		77
Dairy Farm Inspection		78
Milking Management		80
Milk Recording		82
Extension Services		83
Chart I - Milk Grade and Price Program		85
Chart II - Award of Excellence		86
Table I	Activities of Dairy Farm Inspection	87
Table II	Estimated Farm Value of Alberta Milk Production	88
Table III	Milk Cow Numbers	89
Table IV	Semi-Annual Regional DHI Production Summary	90

HORSE INDUSTRY AND FEEDER ASSOCIATIONS BRANCH

Horse Industry Overview	91
Education/Advisory Services	92
Horse Improvement Program	93
Summary of Horse Improvement Program Entries	94
Stallion Fertility Evaluations	95
Market Development Assistance	95
Medication Control	96
Summary of Testing	96
Feeder Associations	97
Summary of Feeder Association Operations	97
1989/90 Feeder Associations Year End Report	98-99
General Comments	100

PORK INDUSTRY BRANCH

		Page
General		101
National Tripartite Stabilization Program Scheme for Hogs		103
Alberta Swine Artificial Insemination Centre		105
Table I	Fresh and Frozen Semen Sales	110
Table II	Summary of Semen Sales (1990-1991)	111
Table III	Summary of Semen Sales (1989-1990)	112
Figure 1	Fresh Semen Sales by Fiscal Year	113
Alberta Swine Improvement Program		107
Table IV	Alberta Swine Improvement Program Performance Testing Summary	114
Table V	Yearly Rate of Genetic Change for Backfat Thickness and Age to 100 kg	115
Table VI	Number of Records Used and Boars and Sows Evaluated for Each Breed	115
Table VII	Seedstock Farms	116
Table VIII	Commercial Farms	116
Table IX	Sow Productivity and Management Program	117
Figure 2	Numbers Tested - Home Test	118
Figure 3	Backfat - Home Test	119
Figure 4	Age 100 kg - Home Test	120
Regional Swine Specialists		
Lethbridge/Airdrie		121
Red Deer/Airdrie		124
Vermilion		130
Barrhead/Peace		131

POULTRY BRANCH

		Page
General Conditions		133
1.	Broiler Breeders	133
2.	Eggs	134
3.	Broilers	135
4.	Turkeys	135
Branch Programs		
1.	Administration	136
2.	Research	136

POULTRY BRANCH Continued

	Page
3. Poultry Health	136
3.1 Hatchery Sanitation Program	137
3.2 Chicken Health Program	138
Table 1 Staff Monitoring of Flock Placements	138
Table 2 Percent Chicken Salmonella Isolations	138
Table 3 Summary of Salmonella Serotypes	139
3.3 Turkey Health Program	139
3.4 Hatching Egg Supply Flock Approval	140
4. Rabbit Extension	140
Branch Activities	
1. Economic Studies	141
2. Extension	142
Alberta Poultry Industry Statistics	
Tables: - Commercial Egg Production and Marketing	143
- Poultry Eviscerated in Registered Stations	143
- Chick and Poultry Placement by Type	143
- Licensing	144
- Farm Cash Receipts $	144
- Number of Registered Quota Holders	144

REGULATORY SERVICES BRANCH

General	145
Tables: - Brand Recording Summary	145
- Summary of 1990 Brand Inspection by Areas	147
- Summary of Kinds of Livestock Marketed for Five Year Period	147
- Comparison of Branded Livestock Inspected for the Last Five Years	148
- Summary of Inspections	148
- Permanent Brand Inspectors	149
- Cattle Exports - 1990	150
- Missing or Stolen Cattle Reports	151
Staff Changes	151

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BEEF CATTLE AND SHEEP BRANCH Continued

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DAIRY PRODUCTION BRANCH Continued

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PORK INDUSTRY BRANCH

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PORK INDUSTRY BRANCH Continued

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REGULATORY SERVICES BRANCH Continued

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ANIMAL INDUSTRY DIVISION

The Animal Industry Division is made up of seven branches: Beef Cattle and Sheep, Dairy Processing, Dairy Production, Horse Industry and Feeder Associations, Pork Industry, Poultry, and Regulatory Services.

The activities of the Division, as noted in the individual branch reports, included extending technical information to producers and agri-business involved in the production and marketing of meat and dairy producing animals and poultry. The Division administered a number of acts and regulations involved in livestock and dairy production. This legislation was amended to conform with industry changes and needs.

The Division remained involved in the safety net programs for livestock producers and contributed considerable support and resource to the National Tripartite Red Meat Stabilization Program administered under Centralized Program Support.

BEEF CATTLE

AND

SHEEP

BRANCH

I. INDUSTRY OVERVIEW

A. Beef Cattle

Expansion of the beef breeding herd in Alberta continued for the fifth year in Alberta in 1990. The January 1, 1991 breeding herd totalled 1.70 million, an increase of 3.3% from 1990 numbers. The 1990 calf crop in Alberta was recorded at 1.56 million, an increase of 1.6% from 1989. Market reports of female slaughter showed a different pattern in Alberta than the rest of Canada in 1990. In Alberta, cows and heifers represented only 43.7% of the total cattle slaughtered, confirming that producers were continuing to retain females to increase their herds. The female slaughter for the whole of Canada, however, represented 47.7% of the total, very nearly the 48% which is considered an indication of a population which is neither increasing or decreasing.

The year saw an increasing proportion of the cattle slaughter shifting to Alberta. In 1990, Alberta slaughter was 1.31 million head and represented 50.7% of the Canadian total, compared with 45.1% in 1989. At the same time, Alberta was exporting increasing numbers of both finished and feeder cattle to the United States. Exported finished cattle, for slaughter in the U.S., totalled 196,858 head in 1990, an increase of 7.6% from 1989. An additional 30,504 head of feeder cattle were exported to the U.S. in 1990, a 3.7 fold increase from 1989. Even so, the exports of feeder cattle from the other three western provinces were almost five times higher, totalling 149,026 head, a 3.4 fold increase from their 1989 exports. Alberta exports of feeders and finished cattle, totalling 227,362, represented 17.3% of the total cattle slaughtered in 1990.

Prices for finished cattle at Alberta markets continued a modest increase for the second consecutive year. In 1990, Alberta wholesale beef prices averaged $151.57 per hundredweight, rail basis, over the year; compared with $148.56 in 1989. Calgary public stockyard prices for A_1 A_2 steers averaged $83.54 per hundredweight live for the year, and ranged from a low of $81.50 in June and July to a high of $87.72 in November. By comparison, live slaughter prices averaged $80.58 in 1989 and $79.00 in 1988.

The Red Meat Stabilization Program payments for beef in 1990 reflected the relatively favourable returns. Participants received payments under the slaughter program of $11.96 per head in March and $10.23 in May, and under the feeder program of $11.45 in March. Market returns in all other months were above the level which triggered payments. Producer premiums for the slaughter program were $8.10 per head in 1990, while premiums for the feeder program were $4.85 until the last quarter, when they were raised to $5.50. These premiums were matched by the provincial and federal governments.

Feeder cattle prices showed a similar modest increase in 1990. Yearling steers weighing from 800 to 900 pounds averaged in the range of $91.50 to $94.00 per hundredweight live, among the various markets in Alberta over the year. These prices compare to averages ranging from $89.77 to $92.81 in 1989. Individual high prices for yearling feeders ranged up to $108.75 during the year compared with highs up to $108.00 in 1989.

Feeder steer calves were also slightly higher in 1990. Average prices for 500 to 600 pound steer calves ranged from $108.17 to $113.71 per hundredweight live among the various markets in Alberta for the year. By comparison average feeder calf prices in 1989 ranged from $104.06 to $106.55. Feeder calf prices topped at $128.50 in 1990 compared with a high of $133.00 in 1989.

An important feature of the beef industry in 1990 was the continued trend to consolidation in the packing industry. In the face of increasing levels of exports of both slaughter and feeder cattle, the opening of the modern high capacity Cargill packing plant at High River, and the renovation and expansion of the Lakeside packing plant at Brooks, there was an increased pressure for rationalization in the industry. As a result, Centennial packers closed their slaughter line in late 1990 and Canada Packers closed their slaughter facilities in Lethbridge and Calgary early in 1991.

B. Sheep

The total number of sheep and lambs continued to grow in Alberta in 1990 for the second year, after falling numbers in the previous three years. By January 1, 1991, the provincial flock was estimated at 158,000 head, an increase of 9.7% from the same date in 1990. The other three prairie provinces showed similar growth in sheep numbers, but British Columbia and the eastern provinces showed a more modest increase of 2.3% - 2.7% during the year.

Imports of slaughter lambs from the U.S. to Canada remained steady at 28,128 head in 1990 while Alberta imports fell from 12,852 head to 11,741 head. Canadian exports of slaughter lambs increased by 16.6% from 10,321 in 1989 to 17,089 in 1990. Much of this increase was from Alberta which increased slaughter lamb exports by 2.7 times: from 4,551 in 1989 to 12,452 in 1990. While slaughter lamb exports increased, there was a fall in the exports of feeder lambs, from 13,044 in 1989 to 6,002 in 1990. Again, most of the change was from Alberta which reduced feeder lamb exports by 55%: from 12,432 in 1989 to 5,561 in 1990. It should be noted that many of the exported lambs designated as "feeder" were short keep to American feedlots to allow them to qualify for U.S. origin production subsidies.

Average lamb prices in Alberta were only 85% of those in 1989. Prices for lambs over 80 pounds at Lambco averaged $61.87 per hundredweight live compared with $72.95 in 1989. At other provincial markets, the average monthly prices ranged as low as $44.95 in November. This compared with a yearly low of $55.00 in 1989.

The price for lamb continued to decline in 1990. This resulted in payments from the Red Meat Stabilization Program of $12.86, $15.53, $17.85, and $20.44 per head in the first, second, third, and fourth quarters respectively. Premiums for 1990 were set at $1.40 per head, and increased to $2.00 per head on March 1, 1991, reflecting the continued heavy payouts from the program. While market prices ranged through the marketing quarters as the lowest in the last seven to thirteen years, producers who participated in the stabilization program received a total return, which was

equivalent to prices ranging from $65.35 per hundredweight live for their third quarter lambs to $80.64 for lambs marketed in the first quarter of the year.

C. Game Farming

The Livestock Diversification Act was passed in June. This Act, when proclaimed, will transfer administration for game farming to Alberta Agriculture. Alberta Fish and Wildlife will retain some elements of game farming supervision, particularly import controls for all game animals and approval of which species may be game farmed, some authority to monitor wildlife activity on game farms. All licensing, facility inspection and herd inventory control is to be performed by Alberta Agriculture. Alberta Agriculture will continue to offer a full extension service to game farmers. The new Act also provides for regulated slaughter and sale of farm raised elk venison within Alberta. The proclamation of the Act awaits approval of regulations.

The game farming industry received a serious shock in 1990. A suspected case of infectious bovine tuberculosis (TB) was discovered in an elk herd in central Alberta in August. The infection was confirmed in November. Another herd in Ontario also had TB infection confirmed at about the same time. Since both herds had been involved in much importing and trading with other herds in Canada, Agriculture Canada felt it wise to immediately impose a nation wide quarantine on all game farms as well as bison, wild boar and llama farms. An accelerated program of testing all game farms herds in Canada was initiated.

By January, the quarantine on bison and wild pig herds was lifted because these animals were routinely slaughtered and TB could easily be detected at the slaughter plant and none of these animals were implicated in the TB outbreak.

The elk TB testing continued rapidly. Seven herds in Alberta were found to have TB infection. Two of the herds had major levels of infection and these herds were destroyed. In all 332 animals in 32 herds had elk which reacted to the first round of skin tests. Many of the reactions turned out to be the less serious avian TB, but 5 of the herds were found to have small numbers of animals infected with bovine TB. These animals were also destroyed. The decision about what to do with the non-infected animals located on these five farms is pending while Agriculture Canada evaluates some new TB testing procedures. The herd testing process is continuing.

Agriculture Canada compensated the herd owners for all animals ordered destroyed. The first animals destroyed were given full market value, but a later change to the compensation policy allowed for market value up to a maximum of $3,500 for males and $7,000 for females. Approximately 730 elk have been destroyed to date, but others are pending on the outcome of further tests.

Notwithstanding the serious implications caused by the outbreak of TB, the game farming industry had some good moments. Grade "Super A" elk velvet antlers sold for up to $115 per pound, an increase of $30 from the previous year. The Alberta product is highly favoured by those within the Asian

pharmaceutical industry who are aware of Canadian velvet. More of the Alberta grown velvet is being dried locally which increases its marketability.

Herd numbers continued to increase but a shortage of breeding stock restricted the number of farmers who could begin. Alberta still does not allow game animals to be imported due to uncertainty over the threat that the meningeal worm may pose to wildlife and farmed animals if it were imported accidentally.

Average prices paid for elk breeding stock moved higher. Bred female elk sold for $13,000 - $14,000. Males to be used for velvet production ranged up to $10,000. Weaned male calves averaged $4,500. Female calves sold for about $8,500.

D. Bison

The demand for bison meat continues to increase. Orders from Europe, the Far East and elsewhere in North America far outstripped the supply. Increased numbers of new breeders are beginning to farm bison and, as with elk, many more people would become involved if stock were readily available. Prices for breeding stock have risen due to the demand. Good bred females now command $2,750 - $3,000 each. Female calves routinely sell for $1,300.

There has been no change to the price of bison meat. Well finished-youthful bulls sell for $1.50 per pound live weight. The wholesale price remains a firm $3.25 per pound.

E. Llama

Llama continue to generate a lot of interest in Alberta. Most people involved, however, own only small land holdings and raise llama as a hobby. There has not been much progress made in developing a consistent market for or supply of llama wool. The numbers are just too small. No one is certain exactly how many llama are on Alberta farms, but 800 - 900 is the popular guess. The llama breeders are beginning to investigate the feasibility of developing a llama meat market.

The current TB epidemic affecting the elk industry has also clouded the llama industry somewhat. There is no clear evidence that a TB problem exists in llama herds in Alberta, but the TB test used to screen imported llama was proved to be not very effective. Llama breeders are anxiously awaiting the adoption of a good TB test so they can properly evaluate their herds and either resolve the problem or remove the uncertainty.

F. Alpaca

Alpaca are gaining in popularity but the numbers on farms are very small. Animals (about 500) owned by Albertans are being held in quarantine in New Zealand and Holland awaiting agreement on a proper TB testing procedure for camalids before they can be imported.

G. Animal Nutrition

Weather conditions in 1990-91 were highly variable and impacted on livestock production and nutrition in several areas. Spring (April-May) temperatures were close to normal in most areas, but precipitation was

variable. The southeast and southwest parts of the province were dry especially the Special Areas in Region 2. Pastures were delayed somewhat in Region 3. Generally there was sufficient moisture to start hay and crops pastures. Due to dry conditions pastures were short in Region 4. Pastures were good in other regions until August when Region 6 pastures suffered from drought conditions. Excellent haying weather in Region 6 resulted in top quality forage being harvested. Region 2 experienced a wet haying season and quality was therefore mediocre. Going into winter, cattle were in average or above average condition and forage supplies were good in most regions. Pregnancy rates on beef cows were lower than expected in Regions 2 and 5. Several regional specialists reported increased interest in ration formulations.

Grain harvest was good in most areas and quality was high. Prices were low which was good for the livestock feeding sector.

November and December were colder than experienced in recent years but not much different than the 30 year normal for most of the province. Winter feed supplies rapidly disappeared giving producers in some areas cause for concern. Fortunately the rest of the winter feeding period was not too cold and feed supplies were adequate through to the end of March.

Although some regions experienced good winter snowfall, there is still concern over adequacy of surface water in the Special Areas.

A successful calving season was reported in most regions with the normal amount of scours and pneumonia problems in newborn calves.

Cattle prices remained high throughout 1990-91. Overall, margins for the feedlot operator were good largely due to low priced feed grains. Sheep and lamb prices were dismal throughout the year forcing producers to attempt to liquidate and look at ways to feed cheaper. Forage prices remained constant at about $80-$100/tonne in the south and $40-$60/tonne in other regions. Barley was constant in the $85-$120 range until harvest when prices dropped to the $70-$100/tonne range. After harvest, oats were a good buy relative to barley, but barley dropped to $50-$160/tonne by March. Canola meal was relatively constant at $180-$200/tonne before harvest, but dropped to $150-$160/tonne by March. Field peas were in the $150 range until the last few months when demand for seed had an effect on feed prices.

Pork prices improved in 1990 causing renewed interest in investment in breeding stock and facilities. Supply management continues to provide milk producers with decent returns if management is good.

The Alberta feed industry was more stable in 1990-91 with no major changes in ownership structure. Margins on manufactured feeds continue to be tight and on-farm mixing continues to be a concern of the industry. On-farm mixing of micro-premixes continues to be an area of legitimate concern to government staff and the feed industry from the perspective of animal and food safety. To retain market share, several feed companies expanded their ownership of livestock.

H. Regional Summaries

Region 1

Grass, winter feed, barley and water have been in good supply through 1990 and 1991. Good returns on pastured cattle in 1990, high fat cattle prices ($90/cwt) and the prospect of good grain and dugout water lead to high grass cattle prices ($120/cwt). These cattle off grass will need $105/cwt to break even while at current fat cattle prices ($82/cwt) feeders will need to purchase them at $90/cwt to break even. The potential is for losses on both sides.

Cow-calf returns have been stable with steady to lower calf prices. There is some thought among producers that the industry is reaching a peak in its traditional cycle. Calf losses were lower this spring as a result of favourable weather.

During the 1990/91 winter, a period of extreme cold and high wind resulted in lower gains and feed efficiencies. Cattle marketed during these periods showed the results while cattle held on feed recovered and compensated with much improved production figures.

Extension efforts in the region to the cattle industry has emphasized production economics. The focus has been on the economics of the traditional production practices. There appears to be less reluctance to question the traditional approaches and more interest in considering alternatives.

Some concern has been shown by both the feeders and calf producers over the closure of the Canada Packers plant. Feeders have been concerned because of the decreased number of competitors in the market, although they have recognized that the remaining plants are much more efficient and could, in the long run, be more competitive. There is also a recognition that American plants will continue to keep local packers honest. Cow-calf producers are concerned about who will kill cull cows and bulls since the remaining plants have traditionally shown less interest in this end of the business.

New feeder associations have been started in two traditionally heavy cattle feeding areas of the region, Picture Butte and Coaldale. These new associations have sparked some interest in the basic aspects of feeding cattle. Both are considering the need for extension efforts focused at new feeders.

Interest in turning grain fields back into grass has been tempered by government programs for grain producers. Given the point of the cattle cycle we are at and the memory of the result that the Lower Inventories for Tomorrow (LIFT) programs and similar U.S. programs had on cattle prices, most cattle producers are happy not be see a big interest in cattle production. There continues to be interest in tame grasses for rangelands, in native grass and its proper management. There is the recognition that in the long term native grass may be more suitable than tame grass. It is interesting to note that environmentalists associated with native grassland

parks have recognized the importance of grazing in the overall management of native grasslands.

Region 2

A regional task team identified nine issues that were/are critical to the beef industry. The development of the issues came from the results of the Beef Survey conducted in each district in the Region.

Twenty-eight programs were planned and conducted in the area. Of these, 17 were on cost of production efficiency, which was the number one issue identified. The other 11 programs covered four of the other issues identified by the Task Team.

In summary, the issues of cost production efficiency, food safety/animal welfare, inter-agency cooperation, marketing, and GOLD standards were addressed according to the plan.

Cattle prices at all levels have given producers opportunities for profit and this should continue into the foreseeable future.

The packing industry is continuing to concentrate, as two processors have stopped their operation (Canada Packers and Dvorkin) and one major processor (Centennial) has cut back. This should not be all bad. Even though there are less bidders, the supplies are such that competition is keen. As well, the alternate of marketing to the U.S. is a safety valve

which has been demonstrated clearly a couple times in the last year (i.e. local packers try to drop price - cattle are shipped to U.S. causing supply problem locally - up goes price).

This Region suffered an erratic weather year, dry early spring, wet late spring, dry summer, dry fall, cold dry winter, dry spring. As a result of this, we see several situations:

- More than normal open cows and late breeding dates (speculation that lush growth didn't provide sufficient energy).
- Dugout and water sources drying up.
- Cows suffered in condition during winter.

Because of the dry summer and fall, some of the Special Areas suffered dramatically and cattle were moved out or sold. Again, the Special Areas administration asked for a volunteer reduction in grazing numbers.

Region 3

The feedlot sector continues to be highly competitive and particularly the finishing side, riding on the edge. This past winter the cost per pound of gain for growing and finishing cattle were very low due to an abundance of inexpensive roughage and grain as well as a mild winter. There was only one three to four-week period in late December where gains were below average. Smaller producers opted to purchase or keep calves back in greater numbers than previous years and this may be due to the availability of inexpensive feed. Most producers sold calves as heavy feeders or backgrounded for pasture cattle.

Supplies at times were far below demand for those purchasing feeder cattle or heavy feeders this past year. Prices were strong with few weaknesses in the market. For lighter calves, this may be in part due to competition from U.S. buyers who took a lot of the calves south of the border. Heavy feeders largely headed to southern Alberta for finishing. There has been little expansion in Central Alberta of finishing lots - in fact, it probably has contracted somewhat.

This past winter, there were also a number of contracts with U.S. companies to background calves here to about 700 lbs and then ship them to the U.S. for finishing.

The packing industry is still in a state of flux and the Red Deer Canada Packers plant has an uncertain future. It is one of the smallest plants left in Alberta and local smaller feeders would definitely feel its loss if it is closed.

The yearling grass market continues to expand as production practices are sharpened and greater gains are possible. Many producers now custom graze on a cost per pound of gain basis and there does not appear to be a shortage of clients. Cow/calf producers are also taking advantage of custom grazing opportunities and each year, there are cow herds that summer graze in central Alberta and winter elsewhere.

Cow/calf producers again enjoyed strong prices for their product in the fall of 1990. However, the summer in the east part of the region was

extremely dry. Many herds were reduced in numbers and cow condition suffered. Cow size has also started to be discussed as producers in these areas are finding management of the larger crossbred cow has not been possible under drought conditions. Over grazing is a real concern and many pastures are to the point where only a prolonged rest will secure any hope of future productivity.

Western producers, however, saw none of this as rains were abundant (to the extreme) and grant programs were instituted to deal with the loss of production due to the high moisture levels. Hay and silage was harvested in very good condition and the fall weather was perfect for harvest and fall work.

Most producers again elected to sell weaned calves through the auctions but with the abundance of relatively cheap feed, there was no shortage of buyers. Calf condition was excellent and producers were pleased with prices received.

Bull sales were strong in this reporting period and good yearlings for many breeds were hard to come by. Two-year olds appear to be a thing of the past as most good bulls are gone well before this age. British breeds for maternal purposes are in good favour at present provided there is some height and scale to the animal.

It was anticipated that our major extension activities this past winter would focus on COWCHIP$ and factors of production related to this. This, however, was not the case as most district offices were involved in other activities. Very few one-on-one producer consultations were carried out using COWCHIP$. This was disappointing. This program, if handled properly, is an excellent extension tool, but it necessitates time and effort on the part of staff or it will not go anywhere.

The Red Deer Chamber of Commerce and others put forth a strong case in favor of an Alberta Beef Congress. As a result, an executive with directors and liaison committees have been formed. It is planned that the inaugural congress will be June, 1992. Participation in the formation of this event by industry, government and producer groups was very strong.

Region 4

This area may become more of a backgrounding area as the big feedlots in the south contract with the packing plants and then look to secure a steady supply of feeder cattle from cow/calf producers.

Ron Noble from Marwayne won the Alberta Beef Cattle Performance Award for commercial breeder for 1989. This has created some interest from other regions for breeding stock.

At the start of the year, bull prices appeared lower than last year. However, toward the end of the year, we had record slaughter cattle prices and the demand for good quality bulls picked up.

In the spring of 1990, pastures took a long time to green up. As a result, producers were running out of winter feed supplies and cow condition declined. Dry conditions also reduced pasture growth north of Lloydminster and in the Two Hills area. In the fall, there appeared to be a higher than normal open cow rate.

In the fall of 1990, localized feed shortages occurred but feed supplies in other areas were plentiful. A number of alternatives such as greenfeed, straw and hail damaged crops were used in areas where mixed hay rations had been the major feed source.

Region 5

Once again beef cattle were a profitable enterprise in Region 5. Beef cattle numbers have been increasing in this region due to the region's ability to grow forages and the ability of beef cattle to utilize marginal crop land. Cattlemen continued to update facilities such as corrals, calving barns and waterers. They are making a future commitment to continue production.

Our extension program has been directed to meet producer and government objectives in the areas of productivity, marketing and management. Through coordinated activity by the Beef Cattle and Sheep Branch and the region, resource material has been developed which lets extension people better meet farmer needs. We are also better able to monitor farm productivity so that change can be recorded.

Producers are concerned about how long beef prices can remain profitable. Producers are also concerned about the future direction of the animal welfare movement and of available markets for beef.

Region 6

The beef and sheep producers in the Peace had a good winter, with calving and lambing proceeding normally. Most of the forages were harvested in good condition and this resulted in less than the usual amount of grain being fed. Optimism for both industries seems cautious in spite of the lower than expected lamb prices of 1990.

Approximately 60 operators are following the Cattle Improvement Program (CIP) to some extent. Those who are endeavoring to use CIP as it was designed, i.e. to shorten calving and improve calf crop income, are making good progress. Others are choosing options within CIP for their herds. The most important result of this intensive extension effort in the Peace has been to increase awareness of bull fertility, vaccination requirements, feed sampling and ration balancing. Lap top computers have enabled even the most inexperienced district agriculturists to assist clients in improving herd nutrition.

Production costing and break-even calculations are gradually becoming more accepted by cow/calf and background calf feeders. This information has convinced more cattlemen to change to fall (or late summer) calving, and for others to hold their calves on roughage for the grasser market in May or September. As more fall born calves appear on the May feeder market, bids

are reflecting the distinction in age between them and the spring born yearlings. Premiums for the fall calves are ranging from $7 to $11. Once offerings of 40-50,000 lb lots are available, premiums will increase.

Corral facilities planning proceeded as usual during the summer, with approximately 60 in various stages of completion. This brings the total to over 300 facilities planned and staked out in five summers. No reduction in this demand is expected during 1991.

The first 28 producers were introduced to the Sheep Improvement Program (SIP) during late winter. Interest in sheep production has been reduced with the lower prices of 1990, however, optimism prevailed among those on the stabilization program.

II. PROGRAMS

1. Federal-Provincial Beef R.O.P. (Record of Performance) Program

The Beef ROP Program is delivered to Alberta beef producers under an agreement between Alberta Agriculture and Agriculture Canada. Agriculture Canada provides the hardware and software to process ROP data, while Alberta Agriculture provides the data entry and extension personnel. The capacity of the system to manipulate the data base has been something of a problem for the past couple of years. A much larger (and faster) hard drive was installed this year which has alleviated much of that problem. Data processing for the ROP program has run smoothly this year. The early hardware and software problems did not generally cause producers to suffer major delays in receiving their data. By and large, producers have expressed satisfaction with the service provided to them.

A total of 5,950 weaning records from 92 herds were processed by our branch in 1990-91. This total is down a thousand head from the 1989-90 totals. The Canadian Angus Association and Canadian Limousin Association versions of the Federal-Provincial ROP have continued to draw herds away from being processed here. The number of new enrollees to the ROP program has increased. Twenty-six new herds enrolled this year compared to 20 in 1989-90. Unfortunately not all producers who filed reports last year did so again this year and as a result, numbers of weaning records are down.

Performance records for Alberta cattle are calculated by one of the following methods: the Federal-Provincial Beef ROP Program, one of several programs offered by breed associations (such as Angus, Charolais, Hereford, Limousin, or Simmental), at home on one of a number of micro-computer programs available, or by hand. In some cases, raw weights alone are used in evaluation of the cattle.

Estimated Progeny Difference (EPD) calculations remain the feature attraction of the Federal-Provincial ROP Program. Many producers who ask for ROP herd enrollment forms indicate that it is the EPD evaluation that has prompted their interest. A Farming for the Future project conducted with the cooperation of the Canadian Hereford Association supported the usefulness of growth EPD's in the commercial setting. EPD's for calving ease were much less reliable, though birth weight EPD's showed a little more promise in predicting dystocia in the cooperating commercial herds. Producers are gradually establishing a degree of confidence in this new type of evaluation. There seems to be considerable interest in the EPD reports but there is a need for extension efforts to help producers understand how to properly use them as a selection tool.

The National Advisory Board for Beef Cattle Improvement, which is the governing body for beef performance testing programs in Canada, met in Hamilton, Ontario, in June. This meeting brings together representatives of both federal and provincial governments, breed associations as well as producers concerned with beef cattle performance testing. At that meeting, a study initiated by the Canadian Association of Animal Breeders and Agriculture Canada was announced to survey the genetic evaluation needs of the Canadian livestock industries. As part of this process, the Canadian Beef Breeds Council has held numerous discussions which were aimed at a process that could result in the Canadian beef seedstock producer and his breed organization having more say in the genetic evaluation process.

2. R.O.P. Weight Supervision Program

This program, which provided for the supervision of scales and weights taken for beef home ROP test programs, was discontinued effective May 31, 1990. While the Department is no longer directly involved in the weighing of beef cattle, it would appear that there has been essentially no change in the producers' ability to obtain data for the various performance programs available in the province. In some areas the scales, which were owned by the Agricultural Service Boards, have been sold to private individuals, who are continuing to provide a weighing service as a private venture. The remainder of the Service Boards continue to offer the service.

From the beginning of the 1990-91 fiscal year until the program actually came to an end, a total of 6,597 cattle were weighed at a cost of some $5,167.

3. Bull Test Stations

Central bull test stations continue to be a popular medium for testing and marketing bulls, though it would seem that bull test activity peaked in 1988-89. This year 4,550 bulls were tested by 45 testing agencies in the province, which is down about 400 head from 1989-90. The test stations are located throughout the province, but they are concentrated in the more heavily populated areas along Highway 2 from Raymond in the south to Fairview in the north.

Staff assisted many of these test stations by way of weight supervision, consultation in testing procedures, and/or in the calculation and distribution of the test results. The Branch maintains a computer program which is available to assist cooperating test stations calculate the test results.

Test station sales reported to the Department showed the average sale price of a yearling bull to be in the range of $2,050. This figure is slightly lower than the previous few years. Of greater concern, however, was the number of bulls that they managed to sell. Some station managers/test committees are noticing a shift in buyer emphasis away from pure "growth" to a more "all round" performance including calving ease (birth weights) and indications of fertility. Making a switch to this type of selection or evaluation has not proven to be easy. The concept that test stations produce "growth" cattle is fairly well entrenched in the minds of commercial bull buyers and some are beginning to look elsewhere for "all around" bulls.

4. Reproductive Physiology

The position of reproductive physiologist was vacant for much of the year due to a resignation. The position was subsequently discontinued as part of budget reductions which affected the Branch in 1991-92. Extension in reproduction has understandably been markedly reduced over the past year.

Seven research projects were under way at the beginning of the year. Two of the projects were completed. The balance have been transferred to other staff and are still under way. Data is being collected and final results are expected in 1991 or early 1992.

5. Semen Evaluation Laboratory

At the end of the 1990-91 fiscal year (March 31, 1991), the Airdrie Semen Evaluation Laboratory was closed down as part of the budget reductions for the 1991-92 fiscal year. The semen lab had aided the Alberta bull studs to produce and/or distribute frozen semen that met industry expectations and satisfied guidelines formulated by Alberta Agriculture.

The lab examined 639 semen samples from different species during 1990-91 (Table 1). This was a drop of 22.5% in the number of samples examined as compared to the previous year. This drop was mainly due to the last two months being used to wind down the operation.

Of the 639 semen samples evaluated in 1990-91, 424 were received from two of the three Alberta bull studs. The two bull studs had reservations about the quality of 156 of these latter samples. Of the 156 samples,

only 35 (22.4%) met the guidelines for minimum quality of frozen cattle semen prescribed by Alberta Agriculture. (Vide: p.21 1988-89 Annual Report of the Animal Industry Division). The remaining 268 samples were submitted for routine and periodic monitoring of semen quality. Only 162 (61%) of these samples met the provincial minimum standard guidelines.

Table 1

Number of Semen Samples Evaluated by Species

Species	1990-91	1989-90	1988-89
Cattle	626	766	767
Elk	8	50	-
Goat	-	-	22
Horse	1	1	1
Sheep	2	5	-
Swine	1	2	16
Turkey	1	-	-
Totals	639	824	806

Table 2 lists the number of samples submitted by Alberta bull studs for the past three years and the number found to meet the Alberta standard.

Table 2

Number of Semen Samples Evaluated for Alberta Bull Studs and Number Found Which Met Alberta Standard

	1990-91	1989-90	1988-89
Number of samples evaluated	424	590	570
Number of acceptable samples	197	294	317
Percent acceptable	46%	50%	53%

In addition to the 424 samples evaluated for the provincial bull studs, another 215 semen samples were received from embryo transfer businesses, inseminating businesses, owner inseminators, a poultry cooperative, a semen distributor, veterinary clinics and a university all located in Alberta. Two out-of-province bull studs also submitted a few semen samples.

6. Artificial Insemination

Licenses Issued During 1990

	1990	1989
Semen Producing businesses - Beef	3	3
- Swine	1	1
Inseminating businesses	28	27
Semen producing technicians	15	15
Inseminating technicians	60	53

One new insemination business started in Alberta in 1990 and seven more artificial insemination technicians were licensed than during the previous year. Most technicians employed by insemination businesses work only part time and the majority of the owners of the remaining insemination businesses also work only part time at their artificial insemination business. The great majority of all beef and dairy inseminations are performed by herd owners who have been trained at insemination short courses offered by regional colleges or semen producing businesses.

7. Game Farm Extension

Interest in game, bison and llama/alpaca farming remained high during 1990. Many telephone calls from new or prospective game farmers seeking management or market information were handled by the section.

Extension activity was fairly brisk over the last year. Many calls from new or potential game and bison farmers were handled by the Branch. The Branch developed and issued a packet of material aimed to introduce new producers to basic management skills.

Bison are not particularly hard to farm but certain procedures need to be followed to realize the best production potential.

The Branch extension involvement with the llama and alpaca industry was restricted to passing out a small information packet to people who requested it. Numerous telephone calls were handled in which information was also exchanged.

8. Warble Control

Warble infestations in carcasses inspected at Alberta packing plants in 1990 continued to remain below the 2% level. In view of the continued low infestation levels, the Warble Control Advisory Committee discussed possible ways of maintaining effective monitoring while reducing the costs of market inspections and Agricultural Service Boards activities. The committee recommended that until a suitable alternative is found, it is necessary to continue the current monitoring activities at packing plants, livestock markets, grazing reserves, and on selected farms. It was also recommended that selected Agricultural Service Boards would be given the opportunity to participate in a field trial of the enzyme linked immune assay (ELISA) blood test for warble infestation in the fall. If this test proves effective and practical, it will be considered to replace some or all of the current monitoring. The Branch implemented these recommendations. The Department continued to pay 60% of the cost of local Service Board warble control activities, as well as reimbursing them 100% of their costs for supervising warble inspections at markets and grazing reserves.

Table 3

Warble Control Program Costs

1990	1989	1988	1987	1986
$168,336	$157,257	$143,380	$164,040	$156,443

9. Livestock Production Improvement Program

The amount of grants requested by Agricultural Service Boards to encourage the adoption of new livestock production equipment and technology

by their livestock producers was down from the amount used in 1989. The Beef Cattle and Sheep Branch staff continued to work with Service Boards to test and demonstrate new projects, including protecting livestock from pests such as black flies, mosquitoes, stable flies, and controlling house flies and darkling beetles in livestock facilities.

Table 4

Livestock Production Improvement Grants

1990	1989	1988	1987	1986
$24,090	$51,470	$23,648	$43,491	$42,133

10. Black Fly Abatement

The branch continued to support the activities of the Agricultural Service boards in the County of Athabasca and Improvement District 18 at Lac La Biche to monitor black fly activities and develop more effective means for protecting stock from biting flies. Total support for black fly work in those areas was $43,980 in 1990/91.

The County of Athabasca was provided grants to monitor larvae levels in the Athabasca River and monitor adult black fly activities in the district. Together with the Improvement District 18, a plan was developed to repeat the field trial of the biologically based larvicide, BTH_{14}, in Duncan Creek, a tributary to the Athabasca River. Water levels in the breeding season were too low in 1990 and there were too few larvae present to conduct a meaningful test, therefore, the field trial was cancelled.

1990 saw the final year of a three-year project to encourage livestock producers to evaluate on-farm systems to protect cattle from black flies. During that period, 600 protection systems were placed on 202 farms in the County of Athabasca and Improvement District 18. Producer evaluations indicated that self treatment oiler systems provide relief from black flies and allow more normal grazing, but they do not provide complete protection.

11. Alberta Ram Test Station

The sheep specialist from the Airdrie office managed the central performance test station for ram lambs located at the Olds College. Forty-three contributors enrolled 214 lambs in the 1990 test. An extremely wet May and June resulted in lower gains for the third group of lambs enrolled later in the test period. As a result, adjustments were necessary to correct for the environmental effect before the station indexes were calculated in 1990. Five yearlings of wool breeds were held over from the 1989 lamb test to test for wool production in the 1989-90 growth period.

Table 5

Central Ram Lamb Test Station Results 1975-1990

Year	Breeders on Program	Sheep Tested	A.D.G. Suffolk (Rams) (kg)	Head Sold
1975	12	85	.320	45
1976	7	70	.360	43
1977	14	165	.360	53
1978	16	155	.420	57
1979	17	123	.490	52
1980	17	101	.480	44
1981	23	102	.480	40
1982	28	115	.470	49
1983	38	173	.514	61
1984	37	*228	.550	72
1985	38	*202	.532	61
1986	28	**238	.516	51
1987	24	**190	.508	64
1988	37	*226	.518	74
1989	51	*237	.519	76
1990	43	*214	.505	68

* Includes entries on Wool Breeds Test.
** Includes entries on Wool Breeds Test and pilot pasture test which was discontinued in 1988.

12. Sheep R.O.P. (Record of Performance) Home Test Program

The sheep specialist from the Edmonton office continued to supervise the federal-provincial sheep R.O.P. home test program, which is administered through a private consultant. In 1990, there were 96 active breeders enrolled in the program, with 7,582 eligible lambs on test, an increase of 18% in flocks and 6.2% for eligible lambs from 1989.

Table 6

Enrollment in Sheep R.O.P. Home Test

1990	1989	1988	1987	1986
7,582	7,153	6,706	3,509	7,410

13. Alberta Angora Goat Performance Test

There were almost double the number of angora goats enrolled in the 1990 Alberta Angora Goat Performance Test. Seventeen contributors enrolled a total of 38 goats, compared with 22 animals in 1989. The average body weight of the bucks at the end of test, and the average clean fleece weight were lower in 1990, but the fineness of the hair, as represented by the fibre diameter, was improved from previous years.

Table 7

Alberta Angora Goat Performance Test

Year	Breeders	Goats on Test	Clean Fleece Weight (lbs)	Average Fibre Diameter (microns)	Final Body Weight (lbs)
1988		25	10.0	39.2	123.8
1989		22	9.6	41.2	103.0
1990	17	38	8.1	34.7	98.0

14. Beef Herd Management Program

The Beef Herd Reference Binder sales approached 5,500 by the end of 1990. The second round of revisions and additions are scheduled for the winter of 1991-92.

The beef survey has been completed in five regions by 1990, with over 6,000 herds responding, representing one-third of the beef breeding herd in the province. The Peace River region has begun the survey in early 1991 and should be completed by the end of the year. With the survey cycle complete, future surveys will be repeated only when requested by individual districts. The results from these surveys have proved valuable to individual producers in assessing management strategies for improved production, and to extension staff in program planning.

Animal Management Section staff were involved in assisting in formatting, and servicing distribution of the COWBYTE$ ration balancing software for beef cattle. The software package was distributed to Department staff and was released for sale to the public in early 1991. The first three modules of COWCHIP$, copies of the herd management and diagnostic software package were distributed to livestock specialists and district staff for evaluation and orientation in 1990. A manual for the software package was developed and all arrangements have been made for a Department staff and a public release in June, 1991.

During the year, the Section completed the entry of 8,000 scientific and technical references into a computer data base for information retrieval.

15. Issues in Beef Production

The Animal Management Section Head was involved in monitoring and responding to the issues raised in the media which relate to beef production. These include questions about the effective use of land and water resources in beef production, the impact of beef production on the environment, and the healthfulness and safety of the Canadian beef supply. A close working relationship was developed with the Alberta Cattle Commission and the Canadian Cattlemen's Association in sharing information.

16. Feed Analysis Service

The objective of this program is to provide information on the nutrient quality of feedstuffs so the optimum levels of production can be achieved by producers. This is accomplished through the analysis of feeds for producers, extension staff and researchers. Emphasis is on the analysis of farm grown feeds and ingredients available to feed manufacturers rather than commercial feeds. As such, three categories of feedstuffs exist:

(1) regular for paid submissions from producers;
(2) demonstration for diagnostic and extension work by government staff, and
(3) research for special projects being conducted by university, federal and provincial government staff.

The Agricultural Soils and Animal Nutrition Laboratory is operated by the Soils Branch of Plant Industry Division, but the Feed Analysis Service is coordinated by the Laboratory Nutritionist of the Nutrition Section.

(a) Total Samples Analysed

The total number of feed and plant samples analysed by Agricultural Soils and Animal Nutrition Laboratory (ASANL) increased in 1990-91 by 11.6% to 18,818 (Table 8). This is the second year in a row that numbers increased and was 26.3% above the 5-year average. Once again it was the increase in research samples (21.2%) that accounted for the overall increase. Demonstration samples actually dropped by 6.8% and regular samples dropped by 10.2% compared to 1989-90. As a result of these shifts, research samples comprised 72.9% of total samples compared to the rolling 5-year average of 60.0% (Table 9).

Table 8

Comparison Between the Number of Samples Received in the Last Five Fiscal Years

Sample Category	1986-87	1987-88	1988-89	1989-90	1990-91	Average 5 years
Regular Samples	3,360	2,524	2,175	2,016	1,810	2,377
Demonstration Samples	3,055	3,189	3,312	3,538	3,299	3,279
Research Samples	7,456	7,151	6,577	11,312	13,709	9,241
Total Samples	13,871	12,864	12,064	16,866	18,818	14,897

Table 9

Breakdown (%) by Sample Submission Classification for the Past Five Years

Sample Category	1986-87 % of total	1987-88 % of total	1988-89 % of total	1989-90 % of total	1990-91 % of of total	Average 5 years
Regular Samples	24.2	19.6	18.0	12.0	9.6	19.0
Demonstration Samples	22.0	24.8	27.5	21.0	17.5	21.0
Research Samples	53.8	55.6	54.5	67.0	72.9	60.0
Total Samples	13,873	12,864	12,064	16,866	18,818	14,586

(b) Frequency of Sample Submissions

Eighty-five percent of the total regular samples received arrived in the months of August to January inclusive (Table 10). This is consistent with previous years. Sixty-five percent of the demonstration samples and 33% of the research samples were received during this period. Forty-three percent of total samples were received in this 6-month period which indicates that workload is spread evenly throughout the year.

(c) Type of Regular Feeds Submitted

A detailed breakdown of regular feeds showed that submissions were up in August and September in comparison to last year (Table 11). This was primarily due to increases in the roughage category for these two months. The majority (67.1%) of regular submissions continue to be in the roughage category.

(d) Type of Analysis Requested

All regular samples receive the basic analysis package for the feed type (Table 12). However, demonstration and research samples are analysed on the basis of the specific requests for information. A detailed breakdown of the portion of demonstration and regular samples receiving less than the basic package is not available. Table 13 indicates that the type of analyses conducted at the ASANL is similar to previous years. There was a slight increase in the number of copper and zinc analyses done and a three fold increase in boron analyses. When analyses are expressed on the basis of the percentage of the samples received (Table 14), a trend toward more interest in minerals can be seen over the last five years.

Requests for vitamin and amino acid analyses continue, but cannot be handled due to the lack of equipment resources at the ASANL. The feed industry is formulating monogastric diets without a basic knowledge of the amino acid content of many of our local feedstuffs. Technology is available that would allow increased animal performance at reduced cost, but complete amino acid data on our local feeds is lacking.

In the private sector, there are seven laboratories that conduct plant and feed analysis. Feedback from them indicates that about 45,000 samples were analysed by them in 1990. The bulk of analyses provided by private labs is similar to the "basic" package offered by the ASANL. Micro elements were usually requested only if a problem has occurred. It appears that a trend to more silage sample analyses has occurred in the private sector. It is notable that the ASANL's share of the private sector analytical business for producer samples is only about 4%.

The ASANL and the Nutrition Section staff continued to be available for consultation with private labs in the area of methodology and with their clients in the area of animal nutrition.

Table 10

Frequency of 1989-90 Fiscal Year Samples According to the Month Received and Submission Classification

Month	Total	Regular	Demonstration	Research
April	710	40	111	559
May	1,430	25	151	1,254
June	1,090	29	192	869
July	1,620	46	249	1,325
August	1,215	150	227	838
September	1,215	237	428	550
October	1,476	334	714	428
November	1,531	491	365	675
December	978	178	147	653
January	1,757	150	266	1,341
February	2,180	75	245	1,860
March	3,616	55	204	3,357
Total	18,818	1,810	3,299	13,709

Table 11

Frequency of Regular Feed Type Submissions, 1990-91

Month	Total	Grains	Roughages	Silages	Mixed-feeds
April	40	6	19	3	12
May	25	4	10	5	6
June	29	2	10	0	6
July	46	2	35	6	3
August	150	0	126	20	4
September	237	27	193	15	2
October	334	50	253	27	4
November	491	120	307	49	15
December	178	34	103	35	11
January	150	23	90	24	13
February	75	13	45	9	8
March	55	7	24	8	16
Total	1,810	288	1,215	201	100

Table 12

Distribution of Chemical Analyses of Alberta Feedstuffs by Sample Type, 1990-91

Analysis	Regular		Demos		Research		Total Analyses
Total Samples	1,810	%	3,299	%	13,709	%	18,818
Basic Package*	1,810	100.00	3,299	100.00	13,709	100.00	18,818
Carotene	9	0.50	46	1.39	0	0.00	55
Fat	2	0.11	32	0.97	1,710	12.47	1,744
Selenium	315	17.40	1,223	37.07	608	4.44	2,146
Salt	4	0.22	33	1.00	0	0.00	37
Ash	5	0.28	97	2.94	78	0.57	180
Copper	153	8.45	1,358	41.16	6,183	45.10	7,694
Manganese	72	3.98	1,358	41.16	3,346	24.41	4,776
Zinc	117	6.46	1,358	41.16	4,907	35.79	6,382
Iron	11	0.61	1,358	41.16	2,821	20.58	4,190
Magnesium	37	2.04	1,358	41.16	1,504	10.97	2,899
Potassium	26	1.44	1,358	41.16	2,182	15.92	3,566
Sodium	3	0.17	1,382	41.89	741	5.41	2,126
Aluminum	0	0.00	1,360	41.22	448	3.27	1,808
Molybdenum	22	1.22	575	17.43	428	3.12	1,025
Sulphur	27	1.49	1,035	31.37	3,985	29.07	5,047
A.D.I.P.	116	6.41	236	7.15	78	0.57	430
Prussic Acid	0	0.00	0	0.00	0	0.00	0
Boron	0	0.00	1,319	39.98	2,074	15.13	3,393
Cobalt	0	0.00	549	16.64	212	1.55	761
N.D.F.	2	0.11	100	3.03	840	6.13	942
Lignin	0	0.00	67	2.03	87	0.63	154
Crude Fibre	1	0.06	24	0.73	0	0.00	25
Arsenic	0	0.00	0	0.00	1,609	11.74	1,609
Cadmium	0	0.00	0	0.00	1,609	11.74	1,609
Lead	0	0.00	0	0.00	1,609	11.74	1,609
Chlorine	0	0.00	0	0.00	52	0.38	52
Total	2,732		19,525		50,820		73,077

* Package analysis includes moisture, protein, calcium, phosphorus, acid detergent fibre and nitrates on roughages and silages; plus pH determination is also done for silages.
Grain sample analysis includes bushel weight, moisture, protein, phosphorus, with average calcium values being provided.

Note: Demonstration and Research samples usually received just part of the basic package.

Table 13

The Number and Types of Selected Analyses on Alberta Feedstuffs Over the Past Five Fiscal Years

Analysis	1986-87	1987-88	1988-89	1989-90	1990-91	Average
Basic Package*	13,871	12,864	12,064	16,866	18,818	14,897
Carotene	213	124	56	81	55	106
Fat	211	357	212	621	1,744	629
Selenium	2,342	1,220	1,564	2,569	2,146	1,968
Salt	54	45	217	188	37	108
Ash	155	1,183	592	156	180	453
Copper	2,668	1,994	3,011	5,162	7,694	4,106
Manganese	2,230	1,882	2,945	4,778	4,776	3,322
Zinc	2,582	1,662	2,988	5,019	6,382	3,727
Iron	869	730	1,658	4,021	4,190	2,294
Magnesium	1,507	675	1,822	4,274	2,899	2,235
Potassium	1,750	1,590	1,764	4,839	3,566	2,702
Sodium	224	249	1,275	2,665	2,126	1,308
Aluminum	47	82	1,198	1,808	1,868	1,001
Molybdenum	453	217	1,506	1,789	1,025	998
Sulphur	1,617	1,379	1,888	4,974	5,047	2,981
Cadmium	35	0	0	0	1,609	329
A.D.I.P.	339	488	676	372	430	461
Prussic Acid	18	15	4	22	0	12
Boron	556	929	1,322	923	3,393	1,425
Nickel	29	0	7	0	0	7
Cobalt	241	13	1,202	1,670	761	777
N.D.F.	232	865	89	1,967	942	819
Lignin	80	799	605	314	154	390
Total	32,323	29,362	38,655	65,138	69,782	46,725

* Basic Package analysis includes moisture, protein, calcium, phosphorus, acid detergent fibre and nitrates on roughages and silages and pH on silages and moisture, bushel weight, protein and phosphorus on grain samples. Demonstration and Research samples often received only part of the basic package.

Table 14

Selected Types of Analyses Requested as a % of Total Samples Received

Analysis Conducted	1985-86 %	1986-87 %	1987-88 %	1988-89 %	1989-90 %	Average % 1984 to 88-89	1990-91 %
Selenium	10.2	16.9	9.5	13.1	15.2	12.3	11.4
Copper	12.3	19.2	15.5	25.2	30.6	18.5	40.9
Manganese	12.1	16.1	14.6	24.7	28.3	17.2	25.4
Zinc	12.4	18.6	12.6	25.0	29.8	17.8	33.9
Boron	8.5	4.0	7.2	11.1	5.5	6.5	18.0
Magnesium	13.8	10.9	5.2	15.3	25.3	12.8	15.4
Potassium	13.1	12.6	12.4	14.8	28.7	14.6	18.9
Sulphur	10.4	11.7	10.7	15.8	29.5	13.9	26.8
A.D.I.N.	1.7	2.4	3.8	5.7	2.2	2.8	2.3
Fat	2.0	1.5	2.8	1.8	3.7	2.1	9.3
N.D.F.	4.7	1.7	6.7	0.7	11.7	5.1	5.0
Lignin	4.9	0.6	6.2	5.1	1.9	3.2	0.8
Total Samples	17,273	13,871	12,864	11,936	16,866	14,562	18,818

17. Feeding Programs

Each regular and demonstration report was reviewed by a nutritionist before being sent to the client. During this review, brief comments were made on any unusual aspect of the analysis. In 1990-91, 900 regular and 866 demonstration reports were printed (Table 15). This represents a decrease of 9.4% for regular reports and 6.8% for demonstration reports compared to the previous year.

Feeding programs were developed by nutritionists in response to client requests that accompanied feed test reports or that were received independently. The number of feeding programs developed was similar to last year with the exception of dairy (-51%) and swine (+51%). The total number was down by 7.3%.

A feeding program by a nutritionist consists of comments or the quality of the farm grown feedstuffs as well as the formulation of rations for the various classes of livestock the client has indicated. Regional and district staff also provide this service to clients.

Staff continued to consult with companies in the area of product development - primarily mineral supplements. It was usually the smaller independent companies that requested service, but one large salt manufacturer also was involved with our staff.

Table 15

Number of Feeding Programs* Requests on Regular and Demonstration Reports Printed for the Past Five Years

	1986-87	1987-88	1988-89	1989-90	1990-91	5-Year Average
Number of Regular Reports	1,585	1,207	1,056	993	900	1,148
Demonstration Reports	793	773	854	929	866	843
Species:						
Beef	113	60	121	155	152	120
Dairy	42	7	63	64	31	41
Swine	41	18	49	57	86	50
Sheep	6	6	18	23	23	15
Horses	24	6	25	42	43	28
Poultry	5	1	0	10	2	4
Others	0	5	8	17	4	7
Total	231	103	284	368	341	265
Feeding programs as a percent of regular & demo reports (%)	9.7	5.2	14.9	19.1	19.3	13.3

* A feeding report usually involves several specific ration recommendations.

18. Livestock Predator and Beeyard Compensation Programs

Since October, 1987, these programs have been administered by the Acting Head of the Animal Nutrition Section. Decisions concerning compensation are made by the Administrator or referred to a committee consisting of representatives of Alberta Agriculture (2), Fish & Wildlife Division (2) and appointed producers (4). Separate predator committees exist for the Peace Region and the remainder of the province, but there is only one beeyard compensation committee for the province.

The purpose of these programs is to provide up to 80% (beeyards) or 100% (livestock) compensation of the commercial value of losses suffered through the predation of wildlife species. During 1990-91, significant changes in policy were implemented. Effective June 1, 1990, the following changes were made to the Livestock Predator Compensation Program:

1. The compensation rates for confirmed kills was increased from "up to 80% of commercial value at the time of loss" to "up to 100% of commercial value at the time of loss".
2. The compensation rates for probable kills remained at "up to 50% of commercial value at the time of loss".
3. Compensation for missing animals was discontinued. Formerly, it was at "up to 30% of commercial value at the time of the loss".
4. A $100 per claimant annual deductible was implemented, to replace the $100 annual minimum loss before the claimant was eligible for compensation.
5. Compensation for all predation losses from dogs was discontinued.

The value of livestock losses compensated in 1990-91 was $24,452, higher than the previous year and $43,702 higher than the average for the last five years (Table 16). This was a reflection of an 18.7% increase in the number of claims processed compared to 1989-90. The value of beeyard losses ($4,585.00) was lower than last year and very similar to the 5-year average ($4,539.09) for this program.

The predator species responsible for the increased value of compensation payments was the coyote. In comparison to last year, a 33% increase was observed in the number of approved claims citing coyotes as the predator responsible (Table 17). All other species named were either similar or lower than last year. A detailed reporting of the type of livestock losses compensated is given in Table 18. The total dollar value of losses by predator species is provided in Table 19.

The administration of these programs continued without major difficulty. The appeal procedure is working well. A review of these programs completed in 1990 indicated that they were fulfilling the original objectives. Administration of these two programs, including resourcing staff training seminars, requires about 10% of the Acting Section Head's time.

Table 16

Summary of Claims Processed

	Predators		Beeyards	
	$	# of Claims Approved/Processed	$	# of Claims Approved/Processed
1986	200,718.74	53 / 871	4,134.00	21 / 25
1987	232,265.27	695 / 904	5,146.45	27 / 41
1988	223,803.03	766 / 978	2,594.00	8 / 10
1989-90	259,164.22	949 / 1,237	6,236.00	25 / 32
1990-91	283,615.86	1,146 / 1,468	4,585.00	12 / 13
5-Year Average	239,913.42	842 / 1,092	4,539.09	19 / 24

Table 17

Approved Livestock Loss Claims by Predator Species

	Bears	Coyotes	Wolves	Others	Totals
1986	95	431	58	69	653
1987	119	464	37	75	695
1988	54	594	47	71	766
1989-90	84	754	42	69	949
1990-91	63	1,003	46	34	1,146
5-Year Average	83	649	46	64	842

Table 18

Number of compensated losses by species of predator and livestock type, 1990-91

Predator Species	Total Number of Livestock Compensated											Total No. of Claims
	Cattle				Sheep			Swine		Goats	Poultry	
	1-5 mos	6-10 mos	11-24 mos	Cow/ Bulls	0-3 mos	4-9 mos	Ewe/ Rams	0-6 mos	Sow/ Boars			
Southern Committee												
Coyotes	485	10	3	7	465	774	378	12	1	22	1,130	942
Bears	30	7	1	7	2	2	0	0	0	0	0	44
Wolves	11	9	13	0	0	0	0	0	0	1	0	18
Others	6	0	0	0	11	0	9	0	0	0	1,587	30
Sub-Total	532	26	17	14	478	776	387	12	1	23	2,717	1,034
Peace River Committee												
Coyotes	31	0	0	0	48	46	28	0	0	2	0	61
Bears	10	2	2	1	2	0	6	0	0	0	0	19
Wolves	53	7	6	8	0	0	0	0	0	0	0	28
Others	0	0	0	0	0	0	0	0	0	0	406	4
Sub-Total	94	9	8	9	50	46	34	0	0	2	406	112
Total	626	35	25	23	528	822	421	12	1	25	3,123	1,146

Table 19

Value of Approved Predator Loss by Predator Species and Area for 1990-91

	Coyotes	Bears	Wolves	Others	Total
Southern	209,849.92	17,110.00	9,530.00	6,728.55	243,218.47
Peace River	13,139.50	6,280.00	20,625.00	352.89	40,397.39
Total $	222,989.42	23,390.00	30,155.00	7,081.44	283,615.86

III. Research and Development

The branch staff and regional specialists in cooperation with district agriculturists and producers undertook research in various aspects of livestock production. Our involvement ranged from conducting the entire projects to consulting on design, data analysis and formulating objectives. A number of projects were funded by the on-farm demonstration program of Farming for the Future.

The major projects handled by branch staff are given below.

(a) Reproduction

1. Analysis of body weight on a predicting scrotal circumference in ROP bulls - the development of generalized models.
2. Semen and fertility evaluation in miniature stallions.
3. Effects of nutrition on semen characteristics and quality in artificial insemination boars.

4. Analysis of the effects of trace minerals, estrumate or pasture type on growth reproduction in heifers.
5. Synovex-C or Ralgro in replacement heifers. Data through pre-breeding collected; progress report to breeding written. Collecting calving information, weaning weights and fall pregnancy check.
6. Validation of dystocia prediction model. Data collected on approximately 1000 heifers to date; more heifers to enter study at preg-check time. Collecting additional data.
7. Bull pelvic study. Data collected on approximately 1,700 yearling bulls; awaiting analysis and single-sire follow-up. Collecting calving data. Entire project being run a second year to add to data base.
8. Use of MGA in heifers. Data collected at fall preg check; awaiting hormone and calving data. Final report being written.
9. Horn vs body breeding with 1/4 cc and 1/2 cc straws. Cooperators signed up; data collection on first calving being collected. Project to run an additional year to increase size of data base.
10. Follicular IGF-I in postpartum beef cows. Completed. Final report issued.

(b) Livestock Entomology

1. Continuation of studies on the incidence of black fly larvae and monitoring tributary streams.
2. Continuing evaluation in cooperation with Agricultural Service Boards, I.D. 18 (Lac La Biche) and Lakeland of on-farm methods for protection of livestock biting flies.

3. Evaluation of Permethrin Pour-on for sheep ked control.
4. Analysis and monitoring Warble control programs for 90-91.
5. Control of lice in goats.
6. Ectiban in self treatment oilers for relief from biting flies.
7. BTH-14 treatments of small streams for black fly larvae control.
8. Stable fly control in dairy barns in central Alberta.
9. Mosquito control (source reduction) in grazing pastures.
10. Efficacy of salt licks for horn fly control.
11. Slough consolidation demonstrations and their effects on mosquito breeding habitats.

(c) Beef Management

1. Effects of frequency of feeding on performance and efficiency of feedlot steers.
2. Continuation of dehorning/castration studies in feedlots - cow/calf.
3. Lamont beef project final report.
4. Use of electrolytes for feeder calves.
5. Evaluation of marketing stress in feeder calves.
6. Evaluation of the effects of 48-hour calf removal on reproduction.
7. Use of productivity survey in Camrose beef extension programs.
8. Analysis of the cause of high dystocia rates in an individual cow herd.
9. Evaluation/review of Region 3 range management practices.

(d) Sheep and Goats

1. Eradication of Ovine Progressive Pneumonia (OPP) and evaluation of production in OPP ewes.
2. Assessment of complete pelleted diets for growing lambs.

(e) Feeding and Nutrition

1. Analysis of nutrient differences in field peas grown in Alberta.
2. Comparison of NIR and wet chemistry analyses of field peas.
3. Review of triticale studies as a grain and silage for feedlot cattle.
4. Analysis of energy/protein creep supplements (Region 3 data).
5. Continuation on effects of whole vs rolled high moisture barley studies.
6. Vitamin A studies with cattle on pasture.
7. Prediction of nutrient requirements (equations) for different classes of cattle, based on size, intake and gain.
8. Studies on feeding pea creep to growing/suckling calves on pasture (CARA studies).
9. Comparison of energy/protein creep on gain among calves put through pasture and feedlot in NE Alberta.
10. Effects of fertilizer application on pasture and animal productivity in Pembina grazing pastures.
11. Comparison of yields among timothy varieties (Year 2).
12. Pea creep feeding for fall born calves.
13. Analysis of Pembina pasture cost studies (Year 2).

14. Retrieval of data on hoof cracks - effects of breed, age and claw characteristics.
15. Survey and studies of Sand Cracks in Alberta herds.
16. Analysis and homogeneity of feed mixing.
17. Evaluation of calcium chloride as a source of calcium in feedlot rations.
18. Evaluation of Condor barley.
19. Evaluation of feeding of Condor barley to grower and finishing swine.
20. The effect of high moisture barley innoculant on productivity and efficiency of steers.
21. Comparison of field peas vs soy bean meal for growing pigs.
22. The incidence of sand cracks and possible effects on beef cattle production.

(f) Animal Performance and Growth

1. Comparison of Ivermectin as a antihelmintic agent in a rapid pasture rotation.
2. Studies on allometric relationships between growth and fertility traits in beef heifers; and their reference to possible calving problems.
3. Effects of disease frequency in bull tests.
4. Characterization of bulls with high and low properties to grow in ROP tests using discriminant analysis.
5. Analysis of marketing trends among Alberta cattle.

(g) Beef Cattle Management, Production, Economics and Surveys

1. Survey of darkling beetles in southern Alberta.
2. Survey dairy producers in province, preparation of questionnaires and data analysis.
3. Poultry producer surveys.
4. Analysis of Alberta producer compliance audits for cow-calf and feeder cattle.
5. Analysis of Alberta producer compliance audits for honey production.
6. Analysis of tracheal and vavora mites and surveys to determine prevalence.

(h) Other

1. Analysis of mortality in poultry barns.
2. Studies in applying linear scores to Dairy Herd Improvement data.
3. Studies in milk metering systems.
4. Analysis of DHI-SCC (Dairy Herd Improvement - Somatic Cell Count) information and relationship between various milk constituents.
5. Comparison of NIR vs wet chemistry analysis for protein, calcium and phosphorus.
6. Theoretical considerations for repeated measures ANOVA and multivariate designs - analysis of sample data.
7. Comparison of urea (cam-liquid vs dry-urea) on yields of canola.

(i) Animal Genetics Discussion Group

In 90/91, we continued with the animal genetics discussion groups. On two of the occasions, the genetics meetings were combined with thesis defense seminars. The discussion topics ranged from ROP bull tests, demonstrations of software (COWCHIP$) to selection for genetic optimums. We had an average attendance of seven at these meetings. Staff from Agriculture Canada, University of Alberta and Alberta Agriculture presented seminars. We hope to continue this dialogue and exchange of ideas between the University, the Agriculture Canada research centres and ourselves. It is hoped that the group will widen its base to include swine, sheep and goats and game animals.

(j) Papers Presented at Scientific Meetings

Branch and regional staff presented a total of 10 papers at the Canadian Society of Animal Science, 40th Annual Conference in Penticton, B.C. in July 1990. The titles and authors are as follow. An * denotes the person who presented the paper.

1. Amino acid digestibilities in beans, peas and lentils for pigs.
   S. Jaikaran*, M. Imbeah and W.C. Sauer.
2. Predicting dystocia in first calf heifers.
   L.M. Rutter, J.A. Basarab* and L.A. Goonewardene.
3. The effect of disease frequency on bull performance in ROP tests.
   D.B. Karren*, L.A. Goonewardene and J.A. Basarab.
4. Studies on the effects of dehorning, castration or both in feedlot.
   R.K. Hand* and L.A. Goonewardene.

5. The effects of feeding ammoniated high moisture barley grain to finishing feedlot steers.

   B.J. Yaremcio*, G.W. Mathison, D.F. Engstrom and L.A. Goonewardene.

6. Effects of ovine progressive pneumonia on ewe productivity in Finn cross sheep.

   L.A. Goonewardene, W.T. Whitmore*, K. Othen, T.L. Jones and J.M. Henderson.

7. A study on the effects of feeding pea creep to growing calves on pasture.

   D. Westerlund, D. ZoBell, M.L. Graham* and L.A. Goonewardene.

8. Assessment of complete pelleted diets for growing lambs.

   D.F. Engstrom, W.T. Whitmore, A.W. Perry and L.A. Goonewardene.

9. Studies on dehorning steers in Alberta feedlots.

   L.A. Goonewardene* and R.K. Hand.

10. Disease status and its effects on growth among test station bulls.

    D.B. Karren, L.A. Goonewardene*, J.A. Basarab and D.F. Engstrom.

In addition, one paper was presented at the Western Section meetings in Reno, Nevada, July 1990:

Comparison of one and two treatments of Ivermectin on growth of steers on a rapid pasture rotation.

M. Kennedy, D. ZoBell* and L.A. Goonewardene.

(k) Technology Transfer

The first All-Alberta Statistics and Biometrics Workshop was held in October, 1990. There were 66 participants with 15 from private industry. The workshop was divided into plenary and workshop sessions and was organized jointly by Alberta Environment and Alberta Agriculture, with a grant made available from the Research Coordination Program of Alberta Agricultural Research Institute. Two papers by branch staff were presented at the workshop:

A Discussion of Discriminant Analysis Using Dystocia in Beef Heifers - J.A. Basarab

An Application of the Repeated Measures ANOVA in Agriculture - L.A. Goonewardene

A refresher course in statistics and experimental design was offered to branch and division staff in May, 1990. The same course was offered to Alberta Agriculture staff in December of 1990 and February of 1991. Each session was limited to 12 participants and classes were always full. The courses were conducted with assistance of Dr. Zack Florence (Alberta Environmental Centre) and Dr. Paul Arthur (University of Alberta). In addition, a modified course in statistics was provided for staff at the Chinook Applied Research Association and Lakeside Research.

(l) Publications in Referred Journals 1990/91

1. Goonewardene, L.A. and Hand, R.K. 1991. Studies on dehorning steers in Alberta feedlots. Accepted for publication Canadian Journal of Animal Science.

2. ZoBell, D.R., Goonewardene, L.A. and Engstrom, D.F. 1991. Evaluation of triticale silage as a feed for growing steers. Accepted for publication Canadian Journal of Animal Science.

3. Yaremcio, B.J., Mathison, G.W., Engstrom, D.F. and Goonewardene, L.A. 1991. Effects of feeding high moisture barley grain to finishing feedlot steers. Accepted for publication Canadian Journal of Animal Science.

4. Piche, C.A., Kennedy, M.J., Bauck, S.W. and Goondwardene, L.A. 1990. Comparison of three antihelmintics in the control of intestinal nematodes in young horses on fall and winter pastures. Can. Vet. J. 31:841-843.

5. ZoBell, D.R., Goonewardene, L.A. and Engstrom, D.F. 1990. Potential of triticale as a feed for finishing heifers. Canadian Journal of Animal Science. 70:325-328.

6. Kennedy, M.J., Moraiko, D.T. and Goonewardene, L.A. 1990. A study of the prevalence and intensity of occurrence of Thelazia Skrjabini in cattle in north central Alberta. J. Parasit. 76:196-200.

7. Smith, R.A. and Suleiman, A. 1990. Nitrate intoxication from large round bales. Journal of Veterinary and Human Toxicology (in press).

8. Yaremcio, B.J., Mathison, G.W. and Engstrom, D.F. 1990. The effects of feeding ammoniated high moisture barley grain to finishing feedlot steers. Canadian Journal of Animal Science (in press).

9. Engstrom, D.F., Whitmore, W.T., Perry, A.W. and Goonwardene, L.A. Assessment of complete pelleted diets for growing lambs. 1990. Canadian Journal of Animal Science, 70: 1203 (abstr.)

10. Karren, D.B., Goonwardene, L.A., Basarab, J.A. and Engstrom, D.E. 1990. Disease status and its effects on growth among test station bulls. Canadian Journal of Animal Science, 70: 1204 (abstr.)

11. Jaikaran, S., Imbeah, M. and Sauer, W.C. 1990. Amino acid digestibilities in beans, peas and lentils for pigs. Canadian Journal of Animal Science, 70:1165 (abstr.)

(m) Research Update

The research including on-farm demonstrations conducted by the branch staff and regional specialists is highlighted in a summary form in the bi-annual research update. A summary of a few journal articles that are relevant to animal production in Alberta are also highlighted in the update. We hope to widen the scope of the research update to include species such as swine, poultry and game animals.

(n) Changes in Software and Mainframe Support

During the 90/91 year, the mainframe computing environment changed from ROSCOE to TSO. This change was necessitated due to the withdrawal of support for ROSCOE in the provincial government and PWSS. TSO is a more interactive environment to work in and process data although there is an on-line charge for TSO. The software used by the branch for most statistical analyses was mainframe SAS (Statistical Analysis Systems). Now that SAS is available on the PC, we have it on three of our computers in the

branch. One computer has a micro to mainframe linking capability which allows us to up and down load both ways from mainframe to micro. The use of SAS on the PC has made it possible to use add on products such as FSP or Graph and Assist. Computing costs have been significantly reduced by making this move to a PC environment.

IV. TECHNOLOGY TRANSFER

Branch staff were involved in enhancing the process of incorporating improved husbandry practices on farms through their extension activities. Producer meetings, telephone, personal contacts and correspondence, mass media releases, newsletters, factsheets and on-farm demonstrations were used to distribute information to department staff, primary producers, industry, other government agencies and the general public. Technology transfer continued to be the major activity of branch staff.

(a) Workshops, Extension Meetings and Field Days

The branch organized and/or participated in a number of major ways in numerous conferences, seminars, meetings, workshops and field days. The International Beef Symposium, Western Nutrition Conference, Managing Agricultural Technology for Profit, Alberta Dairy Seminar, Alberta Pork Seminar and the Alberta Pork Congress were some of these events.

Animal Management Section staff resourced about 55 producer meetings. Animal Breeding Section staff resourced about 15.

About 25 of these meetings were on systematic beef herd management. Some of the other topics addressed at extension meetings by branch staff were: sheep and goat production; food safety; various aspects of beef, dairy and sheep reproduction; predator and insect pest control; options in beef marketing; game farming; beef and sheep genetics and breeding programs.

Nutrition staff resourced 41 extension meetings. Topics requested included condition scoring of dairy cattle, feed additives for sheep, ration formulation, bloat, field peas for swine, feeding and managing for increased milk production and the effects of trace elements and vitamins on immune function. Generally attendance was very good at these meetings.

(b) Mass Media Presentations

Branch staff were active in preparing news releases on various topics for radio and the popular press. At least 40 articles were prepared for Agri-News, Call of the Land, newspapers, radio stations and/or trade magazines. Research presentations, papers and the research update newsletter are noted in Section III, Research and Development. The branch continued to publish Sheep Footnotes on a regular monthly basis.

Major revisions were made to the Alberta Sheep Production Manual and the Cattle Nutrition Home Study Course. Work began on the development of a Beef Backgrounding and Feedlot Reference Binder and on another update of the Beef Herd Management Reference Binder. Branch staff prepared sections of the Broiler Production Handbook, the Pork Production Handbook, and the Dairy Production Home Study Course.

(c) Requests for Service

Responding to individual requests from department staff, producers, other government departments, agribusiness, veterinarians, private consultants, local governments, Agriculture Canada and the research community continued to be a major component of the branch's extension efforts.

Requests ranged from very specific to general in nature and included topics related to virtually all aspect and species of livestock.

Participation in disease investigations and referrals from veterinarians are occurring more frequently, particularly in areas relating to animal nutrition and beef herd management.

V. STAFF DEVELOPMENT

Branch staff attended a number of workshops, seminars, courses and professional society meetings during the year. Emphasis was placed on having a staff member attend major out-of-province events and then report back to staff upon return. The purpose was to improve personal, professional and managerial skill and to keep staff abreast of new subject matter developments. There continued to be considerable emphasis on improving computer use skills.

VI. STAFF CHANGES

Don Scheer remained on secondment to the Alberta Crow Benefit Offset Program.

Cathy Gallivan resigned her position as Sheep Specialist in Airdrie in July to pursue a Ph.D. at the University of Guelph. Kim Stanford was recruited to this position.

Also in July, Dr. Laura Rutter resigned from her position as Reproductive Physiologist to accept a research position at the University of Florida. The position was abolished at the end of the fiscal year due to budget cuts, as were the Laboratory Scientist (Dr. Tanjore Kumar) and Laboratory Technician (Jennifer Harysh) positions at the Semen Evaluation Laboratory. Dr. Kumar transferred to a position with Animal Health Division in Edmonton. Ms. Harysh subsequently found work with Western Breeders.

DAIRY

PR0CESSING

BRANCH

Overview

Total milk supply was up slightly from the previous year. Fluid milk sales, on a per capita basis, continued to improve but were still below the level of previous years. During the flush season, the milk drying plants and cheese manufacturing plants were operating at near maximum capacity.

The introduction of cascading prices for the three sub-classes in Class 3 milk has been well received by the cheese manufacturing plants, particularly the independent variety cheese plants.

The removal of the controlled areas has resulted in an expansion of the sales areas for some of the larger companies. Some brands of dairy products are now available throughout the province whereas they were previously restricted to certain areas. Some concerns have been expressed about the amount of shelf space available for each brand as there has been little, if any, additional space.

Dairy Manufacturing Plants

The renovation and modernization of plants continued in varying degrees of complexity. A level of interest continued for the establishment of dairy manufacturing plants, particularly for the manufacturing of cheese and the use of goat's milk. Several enquiries were received and four applications were submitted.

A small Feta cheese plant commenced operation in the northeast part of the province. This plant uses only goat milk and at this stage only from their own herd.

Three plants closed during the year - a privately owned fluid milk and ice cream plant at Tofield was sold, a fluid milk plant and a cheese manufacturing plant in Wetaskiwin were shut down by their companies.

The cheese plant closure was part of a reorganization, to be completed in 1991, by one of the major companies. Other undertakings included the relocation of the cheese cutting operation, the considerable expansion and modernization of cheese making facilities, and the installation of whey drying equipment.

A variety cheese manufacturer in Calgary commenced and completed a major renovation and expansion of the manufacturing room. Environmental planning and the installation of modern equipment make this one of the most up-to-date Mozzarella plants in Western Canada.

A major dairy company, with three plants in Alberta, was sold during the year. An Ontario firm purchased two of the plants and an Alberta cooperative purchased the third. This is the first time in many years that a dairy firm from out of the province has been directly involved with milk processing.

The annual inspection and testing of pasteurization units continued. Since all units are now approved, few problems were encountered. Plants continue to upgrade the pasteurizers as more refined and computerized components and funds become available. Several provinces now have a pasteurizer inspection program in anticipation of a national requirement for pasteurization unit certification.

One pasteurizer operator course was conducted during the year. In addition to those from Alberta plants, federal inspectors and industry personnel from New Brunswick also took the course.

Plant inspection programs were continued to ensure compliance of all Alberta dairy manufacturing facilities and their products with existing regulations.

The Branch continued to participate in the federal in-depth plant inspection program. Alberta plants continue to have the highest scores in the country. As the plants get older, the scores are dropping with the gap between our average score and that of other provinces becoming narrower.

The Dairy Processing Branch continued to participate and represent the four western provinces on a committee to review and update the plant inspection program. This is the first major review since the program was introduced in 1971. The committee members represent provincial and federal governments and the dairy industry. Major program revisions are almost

completed and, following a thorough review process and training workshops, should be ready for implementation in April, 1992.

Current positions and comparative data for last year are as follows:

	1989-90	1990-91
Alberta Average Plant Score	81.7	81.3
National Average Plant Score	79.6	78.4
Lowest Scoring Plant In Alberta	77.6	74.1
Highest Scoring Plant in Alberta	95.0	95.0

Dairy Products

Bacteriological and compositional standards of fluid and manufactured dairy products remained very high and substantially higher than the regulatory minimum. The Branch continued to concentrate on milk product keeping quality as reflected by a stressed product test as the yardstick by which quality was measured. This more stringent test is necessary since products must remain fully acceptable to consumers after sometimes lengthy periods in the distribution system, not always under ideal storage conditions. Dairy processing specialists investigated isolated lapses in quality rather than chronic difficulties in producing satisfactory products.

Virtually all freshly processed milk met health standards. After subjection to severe conditions (7 days at $7^{o}C$), 82.9% were still within requirements of the regulations, a significant increase over the previous year. The Branch continues to work towards 100% compliance at both levels.

Licensing

Licences Issued	1989-90	1990-91
Dairy Manufacturing Plants	45	44
Bulk Tank Milk Graders	239	258
Milk and Cream Graders & Testers	56	56
Cream Graders	30	32
Plant Milk Graders	116	116
Pasteurizer Operators	161	174

Regulatory

Dairy Processing Specialist activities in regulatory functions were:

	1989-90	1990-91
Dairy Plant Inspections	472	430
Cream Grades Checked	673	533
Cream Grades Adjusted	0	0
Cream Tests Checked	547	400
Cream Tests Adjusted	0	0
Bulk Tank Trucks & Drivers Inspected	189	207

Margarine

The Branch's responsibilities under the Margarine Act were carried out at a similar level of activity as in previous years. Margarine produced and/or sold in the province was sampled and analyzed throughout the year and found to comply fully with compositional requirements.

Regulatory Enforcement

The court case on the possession of imitation cheese was concluded during the year with a not guilty verdict. The Crown, in the judge's opinion, had not established possession with criminal intent. The product remained under detention pending a decision by the defendant for its disposal.

There are continued attempts to market other imitation dairy products in contravention of the Dairy Industry Act. As well as infringing on the Dairy Industry Act, methods and information used by promoters frequently contravened other regulations, e.g. those of the Health Protection Branch and Consumer and Corporate Affairs Canada.

Extension

Dairy processing specialists worked closely with dairy processors in the implementation of technological changes and in broadening the range of dairy processing in the province. An extension activity in recent years has been a voluntary certification program for dairy plant employees to assist in attaining improved quality through increased education and awareness. Lower turnover of staff in most dairy plants accounts for the

reduction in issue of Dairy Plant Worker Certificates. The awarding of certificates in specialist categories such as Cheesemaker and Plant Sanitarian has remained steady.

The licensing of Milk and Cream Graders and Testers and Bulk Milk Graders is a legislative responsibility of this Branch. In view of the important role of the Bulk Milk Grader in the collection of samples on which the producer is paid, the Branch has continued emphasis on testing and inspection of Bulk Milk Graders.

Follow-up investigations were carried out when significant variations were found on the producer samples taken by the Bulk Milk Graders. In most cases, the increased surveillance resulted in more attention being paid to proper pick-up procedures. Additional follow-up work was conducted when problems continued to exist. A significant improvement was noted in the number of contention samples.

The revision of the Cheesemaker's Manual continued during the year and is scheduled for completion this year.

Together with Agriculture Canada and the Alberta Dairymen's Association, the Processing Branch continues to be active in sponsoring and judging dairy product quality competitions. Competitions are based on bi-monthly samples. Winners are recognized annually at the Dairymen's Convention.

Special Projects

The principal activity of Special Projects related to the investigation of the illegal sale of imitation dairy products, notably imitation cheese, and the enforcement of the Dairy Industry Act with respect to imitation dairy products.

Other activities included: the coordination of Alberta Career Development, the Alberta Dairymen's Association, and dairy industry relations with respect to the training and licensing of pasteurizer operators; participation in the pasteurizer operators' courses; ongoing consultation with industry on regulatory and legislative matters; and investigation and assistance in the resolution of problems associated with the dairy industry.

On behalf of the Department, Special Projects continued to work with the private and public sectors on matters relating to aquaculture, and assisted industry in the organization of an association to represent their interests.

TABLE I ESTIMATED PRODUCTION AND VALUE OF FACTORY DAIRY PRODUCTS

The following table shows the quantity, price and value of dairy products manufactured or processed in Alberta dairy manufacturing plants during April 1990 to March 1991, with corresponding figures for 1989-90 added to provide a means for comparison.

	Year*	Quantity ' 000	Price $	Value $ '000
Creamery Butter (kgs)	1990-91	7,392 kg	5.870/kg	43,391
	1989-90	7,147 kg	5.687/kg	40,645
Cheddar Cheese (kgs)	1990-91	7,500 kg	6.580/kg	49,350
	1989-90	7,057 kg	(R)6.400/kg	45,165
Variety Cheese (kgs)	1990-91	5,423 kg	8.510/kg	46,150
	1989-90	5,588 kg	7.160/kg	40,010
Ice Cream[1] (litres)	1990-91	26,881 L	2.650/L	71,234
	1989-90	28,576 L	2.110/L	60,295
Fluid Milk Sales**(litres)	1990-91	226,838 L	0.890/L	201,886
	1989-90	243,028 L	0.866/L	210,462
Fluid Cream Sales (litres)	1990-91	10,760 L	1.810/L	19,476
	1989-90	10,334 L	(R)1.700/L	18,084
Buttermilk & Chocolate Milk (litres)	1990-91	18,483 L	0.950/L	17,558
	1989-90	18,125 L	(R)0.925/L	16,766
Miscellaneous Manufactured Cultured Products[2]	1990-91			146,591
	1989-90			130,281
Total	1990-91			595,636
	1989-90			561,708

1 Includes hard and soft ice cream.

2 Includes concentrated milk products, cottage cheese, whey cheese, yogourt and yogourt mix (hard and soft).

* April to March.
** Skimmilk has been included in fluid milk.

R Revised figures

TABLE II ALBERTA DAIRY STATISTICS 1960-1990

YEAR	TOTAL MILK	ICE CREAM		BUTTER	
	1,000,000 of units	Production '000	# Plants	Production '000	# Plants
1960	1,650 lb	3,632 gal	18	37,338 lb	86
1965	1,641 lb	5,242 gal	16	36,562 lb	81
1970	1,529 lb	5,634 gal	16	29,311 lb	59
1973	1,396 lb	6,332 gal	15	23,282 lb	46
1974	1,284 lb	6,588 gal	16	18,695 lb	36
1975	1,276 lb	6,671 gal	16	20,587 lb	33
1976	1,273 lb	6,713 gal	14	17,843 lb	25
1977*	1,251 lb	6,835 gal	11	18,342 lb	19
1978	425 hL	31,859 L	10	6,946 kg	19
1979	450 hL	30,343 L	10	7,117 kg	18
1980	480 hL	31,906 L	10	7,863 kg	16
1981	528 hL	27,873 L	8	8,260 kg	13
1982	585 hL	27,797 L	8	8,475 kg	13
1983	564 hL	30,891 L	8	7,800 kg	13
1984	584 hL	31,457 L	9	8,161 kg	11
1985	562 hL	31,287 L	10	6,372 kg	11
1986	579 hL	31,108 L	10	7,409 kg	11
1987	589 hL	29,695 L	11	7,062 kg	11
1988	609 hL	30,064 L	15	7,019 kg	6
1989	664 hL	28,476 L	16	7,147 kg	6
1990	587 hL	26,881 L	14	7,391 kg	6

* Prior to 1977, yearly totals were calculated on a calendar year basis. From 1977 to date, all figures are based on a fiscal year basis (April 1 to March 31).

CHEDDAR CHEESE		VARIETY CHEESE		FLUID MILK SALES**
Production '000	# Plants	Production '000	# Plants	'000
1,760 lb	7	---		382,835 lb
2,188 lb	6	---		384,034 lb
3,357 lb	6	155 lb	3	414,034 lb
4,768 lb	6	913 lb	4	451,516 lb
4,884 lb	6	2,186 lb	6	466,816 lb
6,307 lb	7	2,406 lb	6	468,599 lb
6,872 lb	7	3,161 lb	6	175,219 qt
8,013 lb	6	4,557 lb	6	197,238 L
3,935 kg	6	2,386 kg	8	202,171 L
3,649 kg	6	3,007 kg	11	248,936 L
3,921 kg	6	3,159 kg	11	263,016 L
3,599 kg	6	3,321 kg	11	270,931 L
4,023 kg	6	3,651 kg	10	269,783 L
4,160 kg	6	3,533 kg	10	261,411 L
5,768 kg	6	3,787 kg	10	256,798 L
6,315 kg	6	5,220 kg	10	256,032 L
6,822 kg	6	5,022 kg	10	256,989 L
6,836 kg	7	5,427 kg	9	266,980 L
7,316 kg	7	5,505 kg	11	256,287 L
7,057 kg	7	5,587 kg	11	271,487 L
7,500 kg	6	5,422 kg	11	274,806 L

** Includes Homo, 2%, 1%, Chocolate, Skimmilk and Buttermilk.

DAIRY

PRODUCTION

BRANCH

The Dairy Production Branch undertook several initiatives relating to its role in dairy production regulatory and advisory services.

Dairy extension programs and delivery were the subject of a producer survey undertaken in cooperation with regional dairy specialists. The information obtained is of assistance in identifying dairy extension needs and priorities.

Dairy management extension and advisory services were coordinated with Alberta Dairy Herd Improvement Services. Automated data transfer capability was identified as an opportunity to more effectively utilize milk recording information. A demonstration project was undertaken whereby milk recording data was transferred to a commercial dairy management software package in an on-farm computer. This feature greatly enhanced the application and utilization of milk recording data in dairy herd management.

A significant shift away from butterfat at the consumer level has resulted in renewed interest in multiple component pricing of milk. At both the national and provincial levels, several multiple component pricing options were considered. The task of changing to multiple component pricing is complicated by the range of dairy products and their composition as well as the regulated milk price levels which are based on utilization. A transitional phase will be needed as milk component values are adjusted in response to market trends.

The Nocardia Task Force continued to monitor bulk milk samples from Alberta dairy herds on a monthly basis. By year end, very few newly infected herds were identified. Most producers had effectively responded to being advised of the presence of Nocardia in their herds. Individual cows were sampled and those testing positive were culled. Of major significance in evaluating the results of this project is the increased awareness and interest in mastitis prevention and control among all Alberta producers and their veterinarians.

Dairy Farm Inspection

There were 1,418 milk producers in the province as of December 31, 1990, down from 1,444 a year earlier. This was consistent with the trend in slowly declining producer numbers in recent years.

Dairy farm inspection staff performed 2,753 farm inspections in 1990-91, and an additional 1,615 farm consultations. Ninety-eight licensed bulk milk haulers were monitored for proper milk handling procedures. A total of 104 farm bulk tanks were calibrated to ensure correct producer payment.

A total of 35,207 milk samples were analyzed for compliance with current milk quality standards. During the twelve month period ending March 31, 1991, the Milk Grade and Price Program recorded 86 Standard Plate Count infractions, 26 Freezing Point infractions, 58 Inhibitor infractions, and 134 Somatic Cell Count infractions - a total of 304 infractions. Based on the Standard Plate Count, 90.7% of all producer milk samples tested less

than 20,000 bacteria/mL. Only 3.5% of the samples tested above the non-compliance level of 75,000 bacteria/mL.

The Milk Grade and Price Program and advisory services provided to producers contributed significantly to the excellent quality of milk produced in Alberta in 1990-91.

Funds collected from producers resulting from milk grade deductions were allocated to pay innocent producers for lost milk, to compensate milk transport operators when confirmation was required for suspicious inhibitor positive loads, and for the disposal of loads which tested positive. Funds remaining were distributed to milk producers on a monthly basis by the Alberta Dairy Control Board.

Bulk milk somatic cell counts continued to be monitored and advisory assistance was provided to reduce the incidence of mastitis in dairy herds. Bulk milk tank somatic cell counts averaged 263,611 cells per millilitre - a further improvement over 1989-90. Less than 4% of the producer samples tested in Alberta exceeded the provincial standard of 750,000 cells/mL.

The Award of Excellence, sponsored by Alberta Agriculture, was introduced in 1986 to recognize dairy producers for excellence in quality milk production and maintenance of dairy premises. The Award of Excellence was presented to 250 milk producers at the Annual Alberta Dairymen's

Association Convention in February, 1991, as compared to 76 in 1986, the first year of the program. This year, regional winners and an overall provincial winner were recognized, based on the lowest average bulk tank somatic cell count. The response by the milk producers of Alberta has been outstanding.

Milking Management

The Milk Sampling and Metering Committee of the National Liaison Group on Milk Product Quality proposed the evaluation of truck mounted milk collection systems. These systems include state of the art computer controlled automatic milk sampling equipment, milk meters and data acquisition and transfer technologies. The Dairy Production Branch developed a budget and an experimental procedure for the purpose of conducting these evaluations in Alberta. Initial stages will include laboratory evaluations of these systems for sampling and metering accuracy.

These evaluations are to be conducted at the Leduc Food Processing Research Center, October through December, 1991. Field tests on selected systems are scheduled for January through March, 1992. All evaluations are subject to funding grants and approvals.

During the Dairy Extension Series in January, 1991, dairy producers were encouraged to evaluate the function of their milking systems on a routine basis as part of a regularly scheduled testing and analysis program. Producers were encouraged to request this service through their milking equipment dealerships. As a result, several dealerships have

invested in expensive pulsation recorders. One dealer is very pleased with the results he has achieved in terms of additional sales and customer motivation through the use of his recorder. Others have enquired how Dairy Production Branch staff complete an evaluation. Copies of our evaluation form have been requested and one dealer accompanied staff on farm evaluations, in order to learn about our test procedures.

Three milking equipment dealerships have closed their doors; one new dealership has opened.

Analysis of Alberta Dairy Herd Improvement Services (ADHIS) records from 50 Alberta dairy herds to determine the nature of the relationship between milk production and individual cow somatic cell counts, failed to confirm a significant inverse relationship of the type that linear scores are based upon. Further indepth analysis of Alberta records is indicated. Linear scores are enjoying increasing popularity and application; however, there is a need for further indepth analysis to confirm or deny that such a relationship exists and is valid in Alberta.

A total of 116 equipment analyses were completed by the two milking management specialists. Forty-eight new or updated milking systems were evaluated. Another nine calls were completed for transient voltage concerns. Concerns or faults were expressed and identified, and recommendations were provided to producers regarding their milking systems.

Milk Recording

The Dairy Production Branch, in cooperation with Alberta Dairy Herd Improvement Services (ADHIS) and regional staff, has been very active in enhancing milk recording services in Alberta. New services included persistency values, the AP testing option and data transfer.

Provincial extension initiatives focussed on Dairy Herd Improvement (DHI) and getting the most from the DHI program. The Alberta Dairy Extension Series highlighted lactation curves, persistency and analysis services.

Staff and industry training was provided on the use of data transfer and its application with analysis software packages.

The Dairy Production Branch continues to provide ADHIS with an annual grant to support DHI services.

A total of 910 herds were receiving DHI service as of January 1, 1991. This translates to 64.2% of all dairy herds in Alberta enrolled in DHI. The total includes 284 herds (20,361 cows) on supervised service, 358 herds (22,074 cows) on owner-sampler, and 268 herds (17,999 cows) on AP testing. Monthly somatic cell counting continued to be a valuable service with 815 herds (90%) enrolled.

DHI service fees were:

Supervised -	$10.75/cow/6 months
AP -	$ 8.00/cow/6 months
Owner-Sampler -	$ 3.15/cow/6 months
Somatic Cell Counting -	$ 1.25/cow/6 months
Data Transfer -	$42.00/6 months.

The average production per cow (on milk recording) increased to 7,344 kg (milk), 259 kg (fat), 237 kg (protein). This translates to BCA's of 159 (milk), 150 (fat) and 162 (protein).

Extension Services

The Alberta Dairy Extension Series featured the use of lactation curves, persistency and DHI data transfer. This series attracted over 400 producers to a total of five meetings across the province. Host sites for the 1991 Dairy Extension Series were Lethbridge, Olds, Lacombe, Leduc and Rycroft. The featured speaker was Dr. Bob Appleman, Extension Animal Scientist, Dairy Management, University of Minnesota. He spoke on "Milking Management, An Update on Milking Systems and Equipment". His presentation was well received by Alberta dairy producers.

The Annual Western Canadian Dairy Seminar was moved to Red Deer. This move was well received by the industry, with an increase in registrations tc over 200.

Producers and agribusiness continue to show strong support for the annual Alberta Dairy Congress in Leduc. The combination of trade show, educational programs and cattle show, continues to attract in excess of 1,200 people.

The Alberta Dairy Producer Newsletter continued to be very popular. Through a combination of technical articles, research updates, coming events and a classified section, the newsletter has become a "must read" for those wanting to keep up-to-date with the Alberta dairy industry. The publishing date was adjusted to better meet the needs of dairy producers.

CHART I

MILK GRADE AND PRICE PROGRAM

NUMBER OF VIOLATIONS PER YEAR

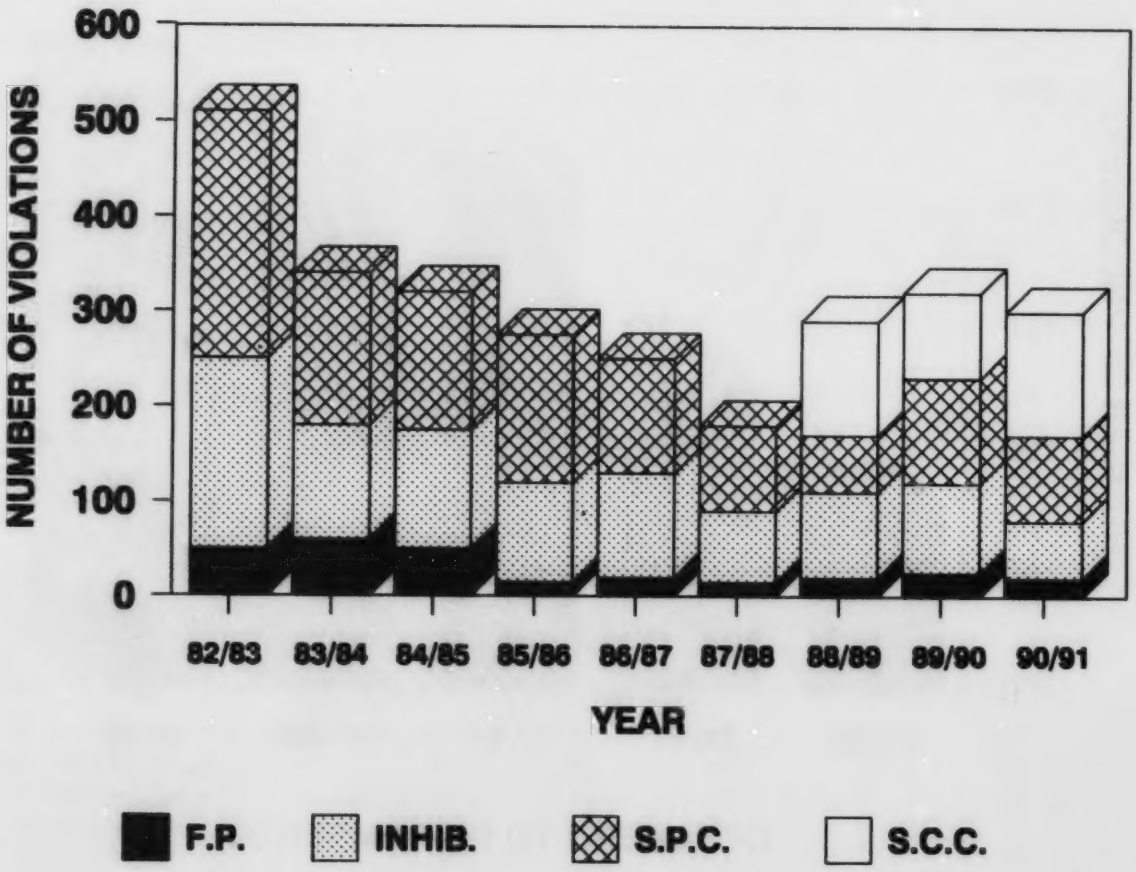


CHART II

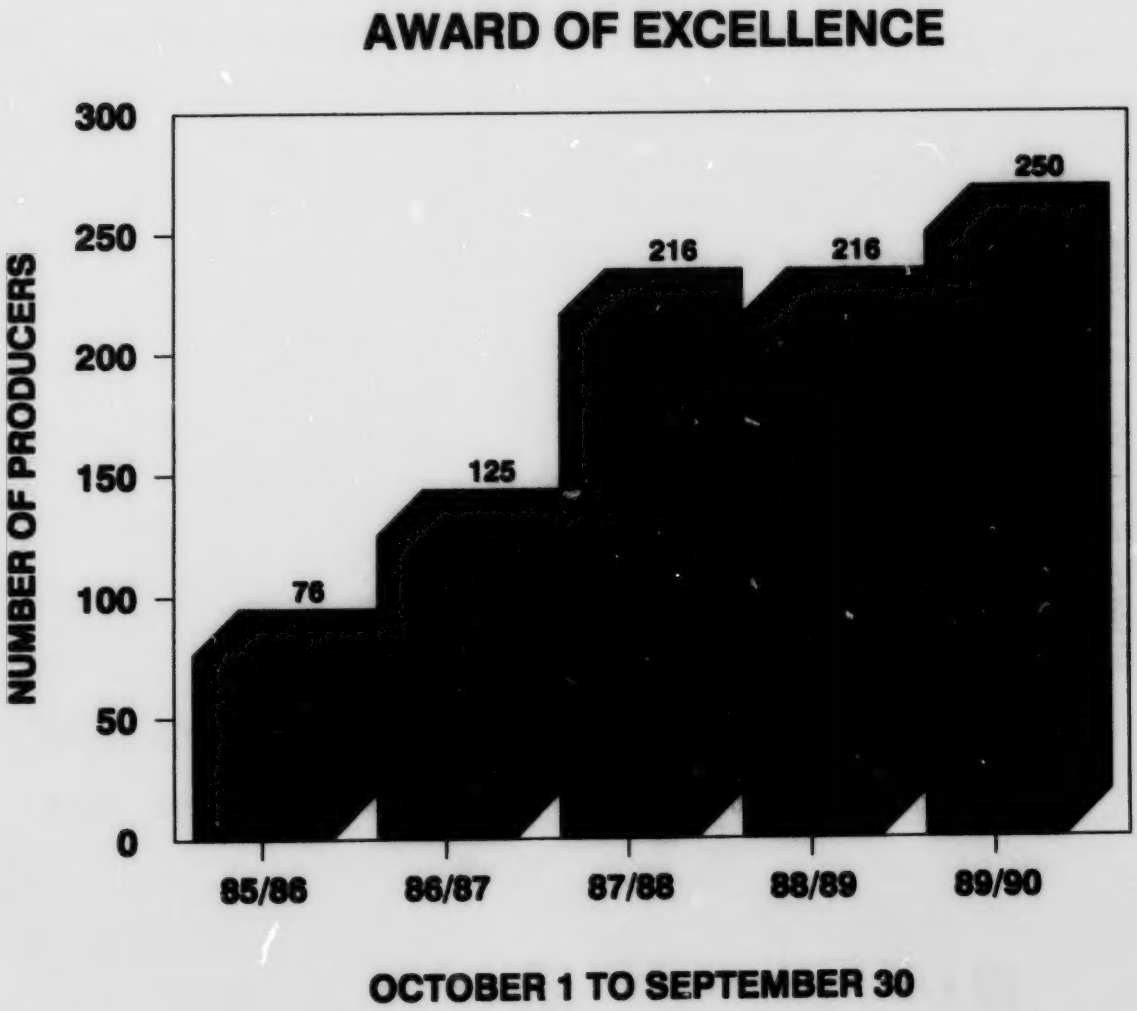

AWARD OF EXCELLENCE
NUMBER OF PRODUCERS
300
250
200
150
100
50
0
76
125
216
216
250
85/86
86/87
87/88
88/89
89/90
OCTOBER 1 TO SEPTEMBER 30

TABLE I The following table summarizes the activities of Dairy Farm Inspection. Comparisons are based upon an April 1 to March 31 year.

	1989-90	1990-91
Number of Certified Milk Producers	1,444	1,418
Inspections of Dairy Farm Premises	3,055	2,753
Non-Inspection Dairy Farm Calls	1,746	1,615
TOTAL FARM CALLS	4,801	4,368
TOTAL RAW MILK SAMPLES ANALYZED	36,006	35,207
Quality of Milk Samples Analyzed		
Milk Samples Non-Compliance (75,000/mL S.P.C.)	3.6%	3.5%
Average Somatic Cell Counts (Leucocytes)	279,862	263,611
Number of Infractions		
- SPC	84	86
- Inhibitors	87	58
- Cryoscopic Analysis	33	26
- Somatic Cells	129	134
TOTAL INFRACTIONS	333	304

Number of Infractions per Producer:

	1986-87	1987-88	1988-89	1989-90	1990-91
1 Infraction	153	133	184	167	152
2 Infractions	63	38	60	69	68
3 Infractions	19	10	27	47	46
4 Infractions	7	2	11	24	18
More than 4	6	2	6	26	20
	248	185	288	333	304

TABLE II **ESTIMATED FARM VALUE OF ALBERTA MILK PRODUCTION, APRIL 1990 - MARCH 1991**

The quantity, price, value and utilization of milk production during April 1990 to March 1991 are reported in the following table. To indicate changes from the previous year, 1989-90 figures have been included.

	Year	Milk Equivalent '000 kg	% of Total	Prices $	Value $'000
Milkfat for Creamery Butter	1990-91	10,149 L	1.64	4.850/kg	2,165
	1989-90	10,365 L	1.56	4.64 /kg	2,116
Milk Purchased for the Manufacture of Powder and Butter [1]	1990-91	144,898 L	23.40	42.09/hL	60,987
	1989-90	142,728 L	21.48	41.05/hL	58,590
Milk for Cheesemaking	1990-91	126,737 L	20.46	42.47/hL	53,825
	1989-90	144,156 L	21.69	41.09/hL	59,247
Milk for Concentrating and Milk & Milkfat for Ice Cream & Misc. Products [2]	1990-91	60,772 L	9.81	44.24/hL	26,885
	1989-90	64,641 L	9.73	42.92/hL	27,744
Milk Purchased for Fluid Purposes	1990-91	267,616 L	43.21	54.01/hL	144,539
	1989-90	271,487 L	43.34	52.82/hL	143,399
Skimmilk Kept on Farms	1990-91	9,134 L	1.48	10.00/hL	0,913
	1989-90	14,649 L	2.20	20.64/hL	3,024
Estimated Federal Subsidy	1990-91				17,906
	1989-90				18,445
TOTAL	1990-91	619,306			307,220
	1989-90	648,026			312,565

[1] Includes milk used for the making of cottage cheese.

[2] Does not include milkfat from creamery butter used in the manufacture of ice cream.

TABLE III Milk Cow Numbers

Year	No. Cows June 1st	Year	No. Cows June 1st
1950	297,800	1979	135,000
1955*	285,000	1980	138,000
1960	279,000	1981	142,000**
1965	262,000	1982	158,000**
1970	198,000	1983	157,000**
1973	169,000	1984	157,000**
1974	169,000	1985	150,000**
1975	170,000	1986	152,000**
1976	152,000	1987	130,000**
1977	155,000	1988	128,000**
1978	148,000	1989	126,000**
		1990	123,000**

* From 1955 forward, average butterfat test 3.5%; previous years were 3.6%.

** Census figure as of January 1 of that year.

TABLE IV **SEMI-ANNUAL REGIONAL DHI PRODUCTION SUMMARY**

(BASED ON DAIRY HERD IMPROVEMENT PRODUCTION RECORDS AS OF JANUARY 1, 1991)

REGION	# OF HERDS	# OF COMPLETED RECORDS	305 DAY PRODUCTION (kg)			305 DAY BCA**			CALVING INTERVAL (months)	AVG. AGE OF FIRST LACT COWS	AVG. # OF LACTATIONS PER COW
			MILK	FAT	PROTEIN	MILK	FAT	PROTEIN			
1. Lethbridge-Brooks	145	11,800	7,555	263	243	163	154	166	12.9	26.8	2.5
2. Calgary	112	6,156	7,517	266	243	165	155	169	13.4	28.1	2.6
3. Red Deer	282	15,549	7,372	261	239	159	152	163	13.2	28.2	2.5
4. Vermilion	66	3,563	6,964	249	225	151	145	154	13.1	27.6	2.6
5. Edmonton	258	14,242	7,156	252	230	153	145	156	13.3	28.9	2.6
6. Peace River	15	1,582	7,377	259	237	158	149	160	13.3	28.5	2.6
PROVINCE	878	52,892	7,344	259	237	159	150	162	13.2	28.0	2.6

*BCA: Breed Class Average

HORSE INDUSTRY

AND

FEEDER ASSOCIATIONS

BRANCH

HORSE INDUSTRY OVERVIEW

The demand for horses for sport and recreation continued to improve during 1990. Sales activity was strong with prices increasing in most cases. The market continues to demand horses with a minimum of training. Sale averages are reflecting this. In the spring of 1991, a multi-breed select sale concept was introduced at Spruce Meadows. This sale attracted 160 consignments from eight different breeds.

	Select Breed Sales				
(Average Price $)	1986	1987	1988	1989	1990
Thoroughbred Yearling	6254	5260	6774	6444	8791
Standardbred Yearling	3032	5861	5490	4062	2374
Quarter Horse	1261	2171	2452	1759	1975
Spruce Meadows					2782

Interest in horse-related sport and recreation activities continued to improve.

In excess by 35,000 horses were processed by the two Alberta horsemeat plants which operated to near capacity. Although statistics on prices are not available, they rose over the year to a range of $0.65 - $0.70 per pound because meat exports from the United States to the European Economic Community (E.E.C.) were suspended for a period of time. Alsask Packers in Edmonton is owned by a Japanese firm, but is up for sale.

Pregnant Mare Urine (PMU) operators had contracts increased by 5% over previous year's level. Producers average a $1,310 return per mare from sale of urine. An increase in contract amounts plus new contracts are expected for the 1991-92 production year.

Education/advisory Services

The branch provides educational and advisory services to horse owners in all areas of the province. The branch has a diverse clientele that includes primary producers who raise and market horses, and horse owners who purchase and use horses fo. sport and recreational activities. Although priority for programs is given to the agricultural segment of the industry, education services are provided to all horse owners. A large percentage of users have limited background with livestock and require information on the proper care and handling of horses, both for their own safety and that of the horses they have.

Extension programs include conducting or supporting approximately 40 short courses throughout the province, as well as providing speakers for programs conducted by colleges and organizations.

A special effort to provide seminars in rural communities not normally visited was continued. The branch continued to emphasize profitable horse breeding in extension activities which included a series of lectures in three centres. This is done to increase the number and quality of marketable horses.

The branch prepared technical articles and bulletins for distribution and staff was available as resource people for colleges, veterinarians, district agriculturists, private and public loans officers and other Alberta Agriculture staff relative to horses and the horse industry.

The highlight of extension courses was the Alberta Horse Breeders and Owners Conference that was conducted in cooperation with participating breed associations. A total of 305 people registered for the program, which was a 10% increase from the previous year. This program has had participation increase 50% over the past two years. The program included 15 high quality speakers.

Horse Improvement Program

The Horse Improvement Program is an annual breeders show designed to identify and to recognize superior horses, breeders and trainers in Alberta. A committee consisting of representatives from participating breeds assists with the planning. The program continues to grow and to develop more prestige and significance to the industry.

In 1990, 49 classes were available for the 14 participating breeds resulting in 544 horses being evaluated. The classes offered to various breeds were changed by eliminating product of dam and get of sire classes and by adding yearling classes. This resulted in a slight increase in entries but did reduce total number of horses shown by 15%. Results are computerized allowing for breeders to use the information to make selection and mating decisions. In some breeds, these results are the only

performance and production records available. The publication and distribution of individual breed brochures identifying leading sires, dams and breeders continue to broaden the exposure for the program and usefulness of results.

Summary of Horse Improvement Program Entries

	1987	1988	1989	1990
American Saddlebred	19	21	21	29
Arabian	126	90	86	93
Appaloosa	69	73	65	49
Belgian	22	15	27	19
Clydesdale	25	22	17	30
Morgan	29	29	23	21
Paint	28	22	27	36
Partbred Arabian	21	24	23	9
Percheron	45	24	34	28
Pinto	31	30	31	32
Quarter Horse	128	88	90	79
Sport Horse	20	26	36	33
Walkers	15	21	17	39
Welsh Pony	19	22	17	27
Total Entries	597	504	514	524
Total Horses	797	669	656	544

The draft horse section of the program was held the day prior to the Stampede in Calgary, and the light horse section was held during the last two weekends in September at the Westerner Fairgrounds in Red Deer.

Stallion Fertility Evaluation

Horse breeders can, through a referral by a veterinarian, have a fertility evaluation of stallions conducted by the branch in cooperation with Olds College. Twenty-one stallions were tested in 1990.

Market Development Assistance

The branch assists in administering Market Development grants for provincial horse breed associations.

During 1990-91, 17 breed associations were provided grants totalling $86,411. Projects supported include establishing breeders sales, printing brochures, incentives for successful Alberta-bred horses, participation at trade fairs and general promotion and advertising.

In cooperation with Market Development and Agri-food, branch staff coordinated the participation of 17 Alberta breeds at Equi-fair held at Spruce Meadows during the "Masters" horse show. The project involved a large horse exhibit, seminars and demonstrations. A competition called "Battle of the Breeds" was introduced to create interest in the public of what horses can do became an instant success and will be expanded in the future. Equi-Fair is the breed associations' most important marketing venture of the year.

The market for western horses from Alberta continued to increase throughout Europe as many riders desire horses that are different and easy to ride and handle. A number of horses have also been shipped to Japan where a market similar to Europe is developing. There is also an increase in the market for specialized, highly-trained horses for western events such as reining. The branch continues to advise breed associations and to assist in coordinating exports.

Medication Control

As a service to provincial organizations, the branch conducts drug testing at main horse shows. During 1990, 365 horses were tested during 34 days of testing, with no forbidden products being detected. The program continues to foster fair competitions and is appreciated by the horse public and associations.

Summary of Testing

	1986	1987	1988	1989	1990
No. of shows tested	21	17	21	23	23
No. of days tested	25	28	30	38	34
No. of horses tested	432	315	330	447	365
No. of blood samples	125	65	55	55	64
No. of urine samples	307	246	265	361	289
No. of positive tests	0	0	1	0	0

FEEDER ASSOCIATIONS

During the year, 57 feeder associations operated under the Feeder Associations Guarantee Act. Total credit of $176,878,374 purchased 307,548 cattle and 4,694 sheep. Association activity continues to increase each year.

In the last five years, 1,165,800 head of cattle and 29,341 sheep have been purchased with total credit of $669,179,679.

Summary of Feeder Association Operations

Feeding Season	No. of Assoc.	Cattle	Sheep	Amount of Credit
1985-86	38	135,352	3,903	$ 64,278,781
1986-87	48	188,453	5,223	105,511,243
1987-88	55	261,697	5,607	163,380,158
1988-89	57	272,750	9,914	159,131,123
1989-90	56	307,548	4,694	176,878,374

Outstanding feeder association loans at August 31/90 totalled $72,300,000.

The total approved guaranteed loan limit for all feeder associations was $174,250,000 as of August 31, 1990. This compares to a 1989 limit of $155,750,000 for all associations .

1989/90 Feeder Associations Year End Report

Association	Cattle	Sheep	Total Credit
Acme	7,436		$ 4,275,719
Andrew	4,626		2,549,703
Barrhead	8,915		5,541,032
Bashaw	1,599		810,325
Battle River	16,567		9,749,665
Big Valley	4,050		2,115,252
Blindman	16,865		9,455,019
Bonnyville	3,013		1,834,375
Bowden	6,126		3,525,982
Brooks	8,478		4,901,845
Calgary Central	2,882		1,430,655
Carstairs	3,529		1,963,654
Cereal	1,840		975,971
Clearwater	2,313		1,327,640
Colinton	5,069		2,732,233
Delburne	3,020		1,725,442
East Olds	13,666		7,754,303
Flagstaff	7,135		4,865,187
Fort	8,254		4,820,496
Fort Macleod	5,090	480	2,683,244
Forty Mile	1,823		1,135,527
Glenwood	3,165	396	1,779,737
Grande Prairie	5,839	137	3,191,443
Great West	2,050		1,108,580
Hardisty	11,165		6,316,144
Harmon Valley	678		354,643
Highway 9	6,476		3,953,881
Innisfail	878		526,024
Lakeland	4,985		2,809,968
Little Bow	9,119		5,574,676

Association	Cattle	Sheep	Total Credit
Mannville	2,377		$ 1,317,117
Marwayne	5,742		3,433,999
McLeod River	467		308,039
Moose Mountain	486		299,310
North Peace	3,186	196	1,693,417
Northern Alberta	-		-
Paddle River	4,158		2,370,461
Paintearth	1,961		1,043,838
Parkland-Stavely	7,239		4,119,376
Peace Hills	3,244		1,856,796
Pincher Creek	6,980		4,189,689
Ponoka	11,191		6,019,650
Prairie River	4,130		2,141,768
Provost	3,104		1,743,641
Raven	3,394		2,010,161
Red Deer	22,919	2,078	14,317,530
Ridge	7,339		4,043,313
Rockyford	2,311		1,358,372
South Eastern	1,540		745,031
St. Paul	3,294		1,772,848
Stettler	3,468		1,876,602
Stony Plain	1,619		849,321
Thorsby	6,273		3,349,448
Wainwright	2,802		1,572,847
Warwick	4,009		2,676,280
Westlock	14,031	1,407	7,560,512
Wheatland	3,633		2,420,645
Total 89-90	307,548	4,694	$ 176,878,374

During the year September 1/89 to August 31/90, three Order-in-Council approvals were received increasing loan limits for 12 associations, decreasing limits for seven associations and changing lenders for five associations.

In addition, associations were established at Veteran and Bow Island (Forty Mile Association).

Thorsby Feeder Association experienced losses associated with staff fraud. Quick action by the Board of Directors reduced potential losses to members. R.C.M.P. investigation carried on through year end.

Throughout the year, discussion was held regarding the possibilities of a bred heifer option associated with the feeder association program. A resolution presented at the Annual Convention of Feeder Associations in February was defeated by delegates. Continued discussion and lobbying are expected in regard to a bred heifer program.

In order to meet the increased workload caused by the growth in association activity, a field inspection position was added to the Branch. Primarily responsible for field inspections and monitoring association reports, this position provides an integral part to proper monitoring association activity and ensuring that associations adhere to the Guarantee regulation.

PORK

INDUSTRY

BRANCH

The farm cash receipts from sales of hogs in Alberta in 1990 were estimated as 299 million dollars, up 50 million dollars from 1989. Total number of pigs sold for slaughter from Alberta decreased by 2.5% from 1989, and the annual average price for 100 index hogs-dressed in Alberta increased 22% to $1.539/kg from $1.265 in 1989. As a percentage of total farm cash receipts, income from hogs increased from 5.8% in 1989 to 7.1% in 1990 in Alberta. Exports of pork for Canada decreased by 10% and Canadian exports of live hogs decreased 18% in 1990 compared to 1989. For Canada, 246 million kilograms of pork were exported, imports were 7 million kg and 605,465 live slaughter pigs were exported in 1990 (in addition, over 285,000 feeder hogs were exported from Canada in 1990). The net pork and live slaughter hogs exports amounted to about 27% of Canada's total production. Live hog exports (including feeder pigs) from Alberta in 1990 were estimated as 245,000 head or 11% of production and 27% of Canadian live hog exports. Most of Canada's pork exports (75%) and almost all of the live hogs exports were to the U.S. Because of health restrictions, no live slaughter hogs are imported into Canada. Canada's pork exports to Japan decreased 27% from 1989, and went from 13.0% to 9.5% of total pork exports. Other destinations went from 10.4% in 1989 to 14.9%.

The number of active hog operations in Alberta in 1990 was 5,073. The number of hogs of Alberta origin marketed in 1990 were 2,311,046, an average of 456 per operation. On April 1, 1990, the Alberta breeding herd was reported to be 194,000 head and on April 1, 1991, it was reported to be 196,000, a rise of 1.2%. Total pigs on farms in Alberta on April 1, 1991, was reported as 1,801,000, 2.3% above the previous year.

Alberta's share of Canada's pig inventory on April 1, 1991, was 17.0% compared to 16.4% in 1990.

Average hog prices in 1990 in Alberta were $0.274 per kg above that of the previous year and ranged from $1.232/kg (week ending January 12) to $1.862/kg (week ending June 1 in 1990 as weekly averages). The range (highest minus lowest price) in weekly averages was $0.630/kg in 1990 compared to $0.444/kg in 1989. The Alberta average price in 1990 was $0.073/kg below that of Ontario; in 1989, this spread was greater, at $0.115/kg.

Monthly hog sales in Alberta by the Alberta Pork Producers Development Corporation ranged from 141,470 in December to 200,453 in February in 1990, averaging 184,000 monthly and 42,414 weekly for the year, compared to 44,502 in 1989.

The number of hogs slaughtered in Alberta in 1990 were 1,833,783 in federally inspected plants and 63,073 in provincially inspected plants, a total of 1,896,856, up 18.1% from 1989, and equal to 82.1% of Alberta hogs sales and making up 13.4% of the Canadian total slaughter of 14,185,549 head. Average slaughter weight in Alberta was 78.5 kg in 1990 compared to 79.0 kg in 1989, and compared to the 1990 Canadian average of 79.0 kg. In 1990, 0.41% of pigs graded in Alberta were sows, compared to 1.04% in 1989 and compared to 1.31% for Canada for 1990. The average market index for Alberta hogs was 103.1 in 1990, compared to 102.4 in 1989, and 104.0 for Canada in 1990.

The National Tripartite Stabilization Program Scheme for Hogs provided protection from low prices to producers during the year. The following is a summary of the program by quarter:

Quarter	Producer Premiums	National Average Price	National Average Cash Costs	Support* Level	Payouts	
	$/hog	$/CKG	$/CKG	$/CKG	$/CKG	$/hog
Q1, 1990	3.30	136.56	113.60	148.67	12.09	9.67
Q2	3.30	171.14	112.09	153.26	0	0
Q3	3.50	170.69	115.45	170.10	0	0
Q4	3.70	153.40	114.58	154.81	1.41	1.12
Q1, 1991	3.70	148.65	106.95	138.80	0	0
Q2, 1991	3.70	155.02	104.79	152.70	0	0

* Support level = national average cash costs plus 95% of the average difference between the national average price and national average cash costs in the same quarter for the previous 5 years (i.e. 1985 through 1989 for 1990 levels and 1986 through 1990 for 1991 levels).

At year's end, 5,342 Alberta producers were enrolled, and hog production enrolled was about 97% of Alberta's total. Payouts were made for two quarters in 1990 for a total of $6.5 million to Alberta producers. No payouts are due for the first two quarters of 1991. The national fund for hogs was estimated at over $212 million deficit at the beginning of the year and $130 million deficit at year's end. By the end of Q2, 1991, due to no potential payouts, it should go to approximately $62 million. Alberta's share of this is estimated as $16 million (July, 1991).

The Pork Industry Branch provided information and programs for swine producers, agriculture processors and swine industry organizations for the purpose of maintaining and enhancing the long-term profitability of the industry. Information was provided relative to recommended production technology, marketing, financial management, record keeping and use of analysis and planning tools. Programmed assistance included a comprehensive computerized genetic improvement program with a sow productivity monitoring option, swine semen sales with training in the use of swine artificial insemination, a swine production home study course, a subscription handbook on pork production, two major provincial events and several regional and district seminars and courses.

Information and programs were coordinated and provided by branch staff, four regional swine specialists and other professional and technical staff. The pork production home study course, written by branch staff and specialists, which provided detailed self-instruction in the business of pork production aimed at beginning producers, sold over 1,000 copies in the past three years. The pork production handbook was distributed on a fee for service basis and distribution was to over 700 subscribers. This service provided more than 75 fact sheets on pork production topics to persons on the subscriber list, with new material mailed out as it was written or updated. A series of seminars with John Gadd were organized by the branch with University of Alberta resource personnel as well as local specialists and veterinarians, in conjunction with the Alberta Pork Congress. Attendance was over 500 in total for the four locations of Barrhead, St. Paul, Red Deer and Lethbridge.

The 16th Annual Alberta Pork Congress was held in June in Red Deer featuring a livestock show, educational seminars, and an industrial trade show; over 10,000 attended. The 22nd Annual Banff Pork Seminar, held in January, attracted about 170 participants, and featured pork production technology experts from around the world. Branch staff and swine specialists together with university personnel helped plan and resource this event.

Semen sales from the Alberta Swine Artificial Insemination Centre declined slightly from levels reported for the previous year, while the number of customers served showed a slight increase (see Tables I, II, III and Figure I).

Twenty-two boars were on inventory April 1, 1990, 26 were added and 19 boars were removed from service, leaving a total of 29 on hand at year end. The principle reason for removal of boars from service was due to sudden and prolonged loss of semen quality. Farrowing results from sows inseminated were 75.4% with 9.8 live piglets born per litter. Semen quality viewed from laboratory records revealed that 76% of semen extended for sale during the year retained 50% or better motility at 7 days post collection.

It is of interest to note that the A.I. centre offered pooled semen from two or more boars of the same breed for sale commencing July 1, 1990. Some 1,760 doses of pooled semen were sold. Reproductive rates from the pooled semen indicate an increase in farrowing rate of 7% and one additional live pig per litter over semen sold from individual donor boars.

Agriculture Canada published a quarterly list of boars which are ranked by the National Swine Improvement Program as the top 10% in Western Canada. Of the approximately 70 boars listed in each report, the Alberta Swine A.I. Centre is home to at least 10.

Initiatives taken by the Swine A.I. Centre during 1990-91 included:

1. New technology developed in Sweden, and tested at the Lacombe Research Station, was applied to the selection of boars for use in the Alberta Swine A.I. Centre, an Alberta Agriculture owned and operated facility. This technology involved use of electrophoresis of blood samples from candidate boars and related stock in order to determine if an undesirable gene related to the production of pale, soft exudative (PSE) pork and susceptibility to stress was present. These tests were used to classify the boars in use for A.I. as to potential pork quality problems. All A.I. boars were tested and 8 of 30 in use could be advertised as a desirable type for pork quality - likely to be free of the PSE, stress susceptibility gene. In addition, two boars were identified as carriers of the gene and were removed from service, and also numerous candidates for the A.I. program were rejected as potential carriers of the gene. This has resulted in a high demand for semen sold from the boars classified as desirable, and hence has contributed to improvement of pork quality and genetic value of Alberta breeding stock.

2. The Alberta Swine A.I. Centre set up a standard agreement for purchase of boars for A.I. from breeds on the basis of a fixed sum, plus a royalty premium for semen sold from such boars, based on the quality of the boar and his progeny as determined in the Canada-Alberta Swine Improvement Program.

   This has resulted in the purchase of 10 out of 20 boars acquired in 1990-91 as royalty boars. Breeders have responded enthusiastically, and will be eligible for income from sales of semen from these boars once the Swine Improvement Program results qualify them for such payment.

   Numerous swine A.I. short courses and on-farm demonstrations were conducted again during the year by staff to maintain contact and to keep producers informed about the A.I. program for swine.

The Swine Improvement Program in Alberta is a joint Federal-Provincial program for both seedstock and commercial swine producers.

The performance testing program for breeding stock producers is a two part program consisting of:

1. An "on-farm" performance test for backfat and growth rate of boars and gilts performed by provincial government staff.

2. A central station test for measuring backfat and average daily gain of boars at either the Leduc or Lacombe test stations. These are owned by Agriculture Canada but operated by the Alberta Swine Breeders Association (ASBA).

Commercial producers may use the ultrasonic home test program for the selection of boars and gilts within their herds providing they meet certain basic requirements.

The Sow Productivity and Management Program is available for either breeding stock or commercial operators to record production parameters of their sows on an individual and herd basis.

Significant events in the Alberta Swine Improvement Program in 1990:

1. There was considerable activity all year long to enhance the computer program that calculates ESTIMATED BREEDING VALUES (EBVs) on the computers on the participating breeders farms and in the provincial government office. Considerable strides were made to make the program more reliable and responsive to the user's needs.

2. For the first time in the history of the program, the Genetics Technical Committee met in Edmonton just prior to the national board meeting. The genetics committee makes recommendations to the national board. Since there was considerable misunderstanding and distrust about EBV's, several breeders were invited to share their concerns with the genetics committee. As a result, there were commitments made to provide more descriptive materials. In Alberta, several new fact sheets were published. These included one explaining EBV's, another the total Swine Improvement Program. As a result of the Edmonton meeting, a request also went to Agriculture Canada for more manpower to correct technical and program problems. Since then, a new geneticist has been hired to work exclusively on swine.

3. The supervisor of the Swine Improvement Program and the administrator of the Swine Herd Health Program presented several producer seminars to commercial producers and industry personnel. These emphasized the importance of buying performance tested breeding stock of compatible health status. The seminars suggested buying breeding stock that is above average in performance and of a similar health status to the buyer's own. These sessions have been very well received.

   Seminar participants were asked to select breeding stock for hypothetical farms using the monthly Provincial Probe Report and the semi-annual Snout and Lung Reports. Thus, the goals of producing pork efficiently with minimal death losses and medication costs can be achieved.

4. In preparation for the retirement of Leon and Kay Boulter (the Alberta Swine Breeders Association managerial team), several candidates were interviewed and an office was established at the Leduc Test Station. The new manager is Albert Eringfeld who was formerly in charge of the Lacombe test station.

5. For the first time, the home test data is designated as purebred (P) or grade (G)/straightbred. Since the breeding stock sector is now significantly split into these two segments, it is important to make this distinction.

Table I

Fresh and Frozen Semen Sales

April 1, 1990 - March 31, 1991

Alberta Swine A.I. Centre, Leduc, Alberta

	Yorkshire	Landrace	Lacombe	Hampshire	Duroc	Total
Fresh Semen						
Number of Units Extended:	10,197	7,407	1,833	3,008	4,025	26,470
Number of Units Sold:	6,327	4,645	447	1,102	1,792	14,313
Frozen Semen						
Number of Units Frozen:	110	137	26	85	39	397
Units Sold in Canada:	0	2	0	0	0	2
Units Exported:	15	15	0	6	10	46

Table II

SUMMARY OF SEMEN SALES

April 1, 1990 - March 31, 1991

P - Producers
T - Tubes

	1-50		51-100		101-400		> 400		Totals	
Region	#P	#T	#P	#T	#P	#T	#P	#T	#P	#T
Alberta	165	2,475	24	1,604	17	3,625	4	2,654	210	10,358
B.C.	40	365	1	66	7	1,182	1	570	49	2,183
Sask.	31	424	1	66	1	138	0	0	33	628
Manitoba	11	122	0	0	1	222	0	0	12	344
Ontario	1	6	1	77	0	0	0	0	2	83
P.E.I.	5	104	1	81	1	212	0	0	7	397
Newfoundland	0	0	0	0	1	320	0	0	1	320
Totals:	253	3,496	28	1,894	28	5,699	5	3,224	314	14,313

Table III

SUMMARY OF SEMEN SALES

April 1, 1989 - March 31, 1990

P - Producers
T - Tubes

	1-50		51-100		101-400		> 400		Totals	
Region	#P	#T	#P	#T	#P	#T	#P	#T	#P	#T
Alberta	160	2,402	15	1,087	18	3,031	4	2,730	197	9,250
B.C.	37	430	1	56	6	1,197	3	2,524	47	4,207
Sask.	30	387	3	190	1	114	0	0	34	691
Manitoba	10	135	2	161	0	0	0	0	12	296
Ontario	9	101	0	0	0	0	0	0	9	101
P.E.I.	3	64	2	159	0	0	0	0	5	223
Newfoundland	0	0	0	0	0	0	1	483	1	483
Totals:	249	3,519	23	1,653	25	4,342	8	5,737	305	15,251

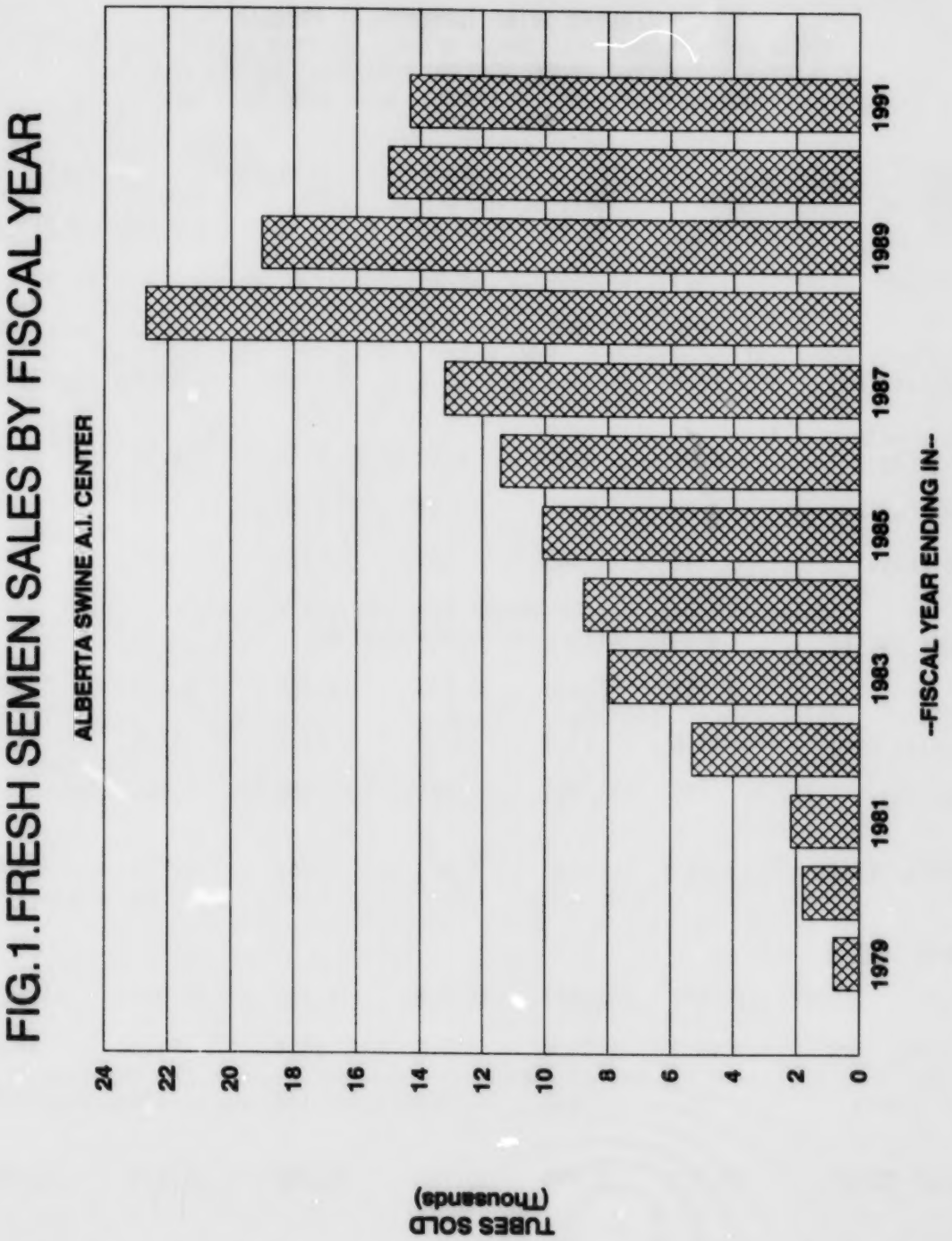


FIG.1.FRESH SEMEN SALES BY FISCAL YEAR
ALBERTA SWINE A.I. CENTER
TUBES SOLD
(Thousands)
24
22
20
18
16
14
12
10
8
6
4
2
0
1979
1981
1983
1985
1987
1989
1991
--FISCAL YEAR ENDING IN--

TABLE IV

ALBERTA SWINE IMPROVEMENT PROGRAM

PERFORMANCE TESTING SUMMARY

1986 - 1990

Boars Station Tested	1986 @ 90 kg	1987 @ 90 kg	1988 @ 90 kg	1988 @ 100 kg	1989 @ 100 kg	1990 @ 100 kg
Number	638	652	574	574	839	822
Avg. Backfat (mm)	14.4	14.1	13.6	14.9	14.2	13.3
Avg. Daily Gain (30 - 90 kg)	0.91	0.90	0.90	0.90	0.93	0.97
Avg. Feed Conversion	2.48	2.47	2.44	2.44	2.44	2.33
Avg. Age (days)	144	145	143	152	151	149
Boars Home Tested						
Number	5,461	6,216	6,269	6,269	5,893	6,546
Avg. Backfat (mm)	13.8	13.3	13.0	14.2	13.9	13.1
Avg. Age (days)	155	154	153	153	165	163
TOTAL BOARS TESTED	6,035	6,868	6,843	6,843	6,732	7,368
Gilts Home Tested						
Number	11,651	12,931	12,915	12,915	10,092	11,161
Avg. Backfat (mm)	15.2	14.4	14.0	15.4	15.3	14.4
Avg. Age (days)	167	163	161	172	174	171
TOTAL PIGS TESTED	17,750	19,799	19,758	19,758	16,824	18,529

TABLE V

YEARLY RATE OF GENETIC CHANGE FOR BACKFAT THICKNESS AND AGE TO 100 KG IN THE WESTERN CANADIAN SIP POPULATION FOR PIGS BORN FROM JANUARY 1, 1988 TO DECEMBER 31, 1990

BREED	YORKSHIRE	LANDRACE	LACOMBE	HAMPSHIRE	DUROC
Fat (mm)	-0.8	+0.06	-0.10	-0.06	-0.04
Age (days)	-0.36	-0.56	-0.68	-0.60	-0.60

The above data is calculated using the Best Linear Unbiased Prediction (BLUP) method.

TABLE VI

NUMBER OF RECORDS USED AND BOARS AND SOWS EVALUATED FOR EACH BREED IN WESTERN CANADA

BREED	YORKSHIRE	LANDRACE	LACOMBE	HAMPSHIRE	DUROC
Number of Records Used*	112,294	31,657	32,444	10,575	16,277
Number of Herds Represented*	295	189	85	126	142
Number of Boars and Sows Evaluated	18,824	5,134	4,082	2,253	3,560

* Includes all records and herds from 1975 to the present, from both the home and station test programs.

TABLE VII

SEEDSTOCK FARMS
40 Active Herds

BREED	BOARS NUMBER TESTED	BOARS AVERAGE BACKFAT @ 100 KG (MM)	BOARS AVERAGE AGE @ 100 KG (DAYS)	GILTS NUMBER TESTED	GILTS AVERAGE BACKFAT @ 100 KG (MM)	GILTS AVERAGE AGE @ 100 KG (DAYS)
Yorkshire (P)	2244	12.9	164	2984	14.1	173
Yorkshire (G)	394	12.5	161	1431	13.9	172
Landrace (P)	734	13.4	159	1032	14.5	166
Landrace (G)	84	12.5	161	251	13.6	172
Lacombe (P)	496	13.8	164	626	15.0	171
Hampshire (P)	440	12.0	181	473	13.3	186
Hampshire (G)	21	12.9	159	15	14.4	178
Duroc (P)	505	14.0	163	381	15.3	169
Duroc (G)	64	12.2	162	89	13.6	170
Red Wattle (P)	56	16.5	186	62	18.9	193
Crossbred	1460	13.2	155	2224	14.3	166
TOTAL	6498	13.1	163	9568	14.3	171

P = Purebred G = Grade or Straightbred

TABLE VIII

COMMERCIAL FARMS
9 Active Herds

BREED	BOARS NUMBER TESTED	BOARS AVERAGE BACKFAT @ 100 KG (MM)	BOARS AVERAGE AGE @ 100 KG (DAYS)	GILTS NUMBER TESTED	GILTS AVERAGE BACKFAT @ 100 KG (MM)	GILTS AVERAGE AGE @ 100 KG (DAYS)
Yorkshire (P & G)	19	14.0	178	39	14.5	180
Landrace (G)	7	11.8	171	7	13.5	181
Crossbred	22	12.8	156	1,547	15.4	174
TOTAL	48	13.1	167	1,593	15.4	174
OVERALL TOTALS	6,546	13.1	163	11,161	14.4	171

P = Purebred G = Grade or Straightbred

TABLE IX

SOW PRODUCTIVITY AND MANAGEMENT PROGRAM

1990 Results

18 Active Herds

	YORKS	LAND	LAC	HAMP	DUROC	REDS*	COMM	TOTAL
tters Weaned	798	425	105	176	48	1	905	2,458
gs Weaned	6,969	3,762	826	1,265	380	3	7,761	20,966
rvices/Farrowing	1.3	1.0	1.1	1.2	1.1	1.0	1.1	1.2
rrowing Interval ays)	164	158	163	158	162	148	162	162
aning to nception (Days)	17.6	13.4	22.5	12.5	13.8	5.0	18.2	16.8
tal Born/Litter	11.1	11.1	10.2	9.8	10.9	3.0	11.0	10.9
rn Live/Litter	9.8	9.8	8.9	8.7	9.3	3.0	9.6	9.6
e-Wean rtality (%)	13.8	12.3	20.2	18.8	18.9	0.0	11.6	13.4
gs Weaned/Litter	8.7	8.9	7.9	7.2	7.9	3.0	8.6	8.5
tters/Sow/Year	2.2	2.3	2.2	2.3	2.3	2.5	2.3	2.3
gs Weaned Per w Per Year	19.1	20.5	17.4	16.6	18.2	7.5	19.8	19.6
of Pigs at Days Per Sow r year	108.9	129.3	108.9	93.2	106.3	61.5	115.0	115.5

REDS = Red Wattle

e herds which are on the Sow Productivity Program are not necessarily the same es that are on the performance testing program.

FIG. 2 NUMBERS TESTED - HOME TEST

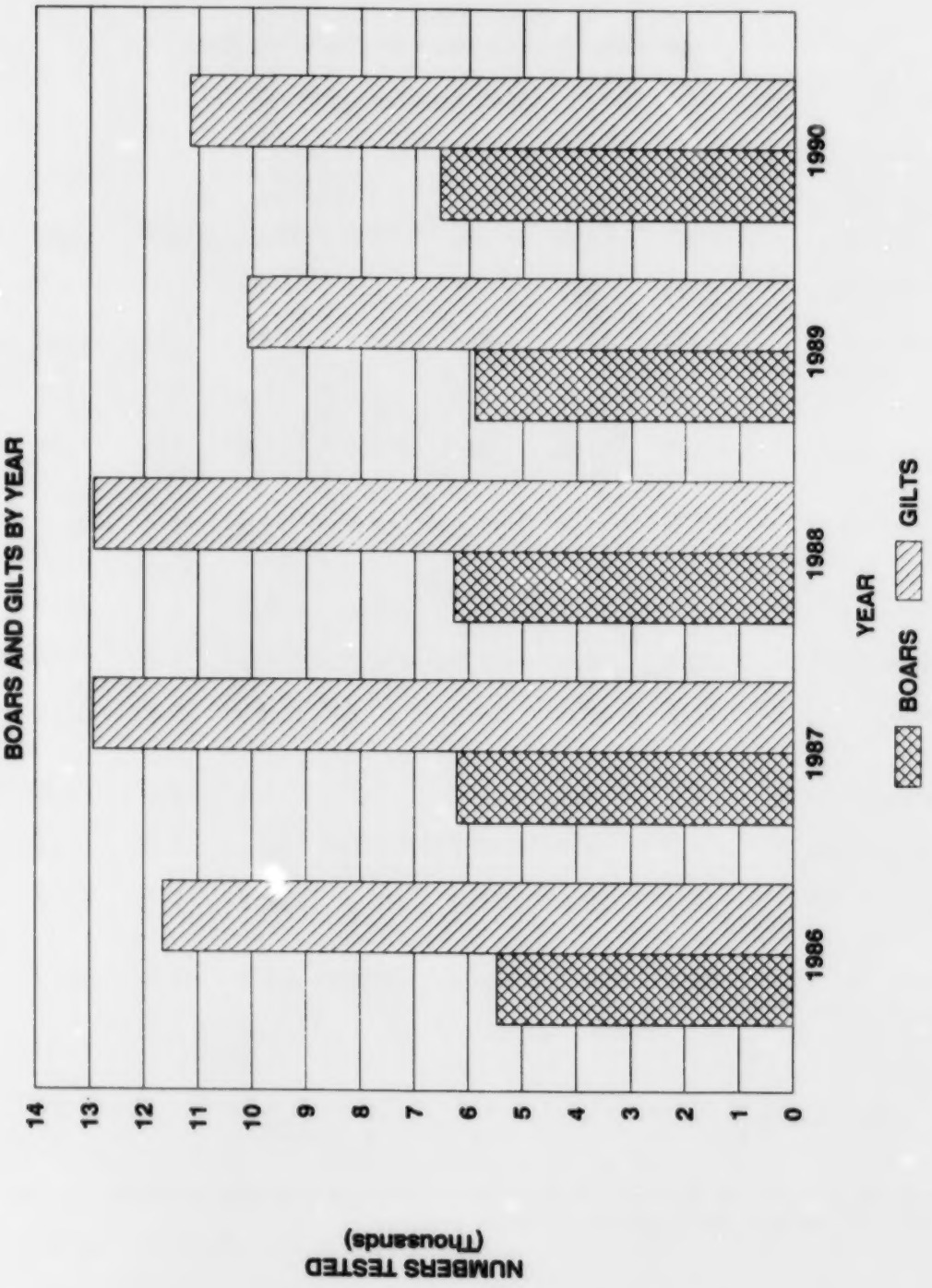


FIG. 3 BACKFAT - HOME TEST

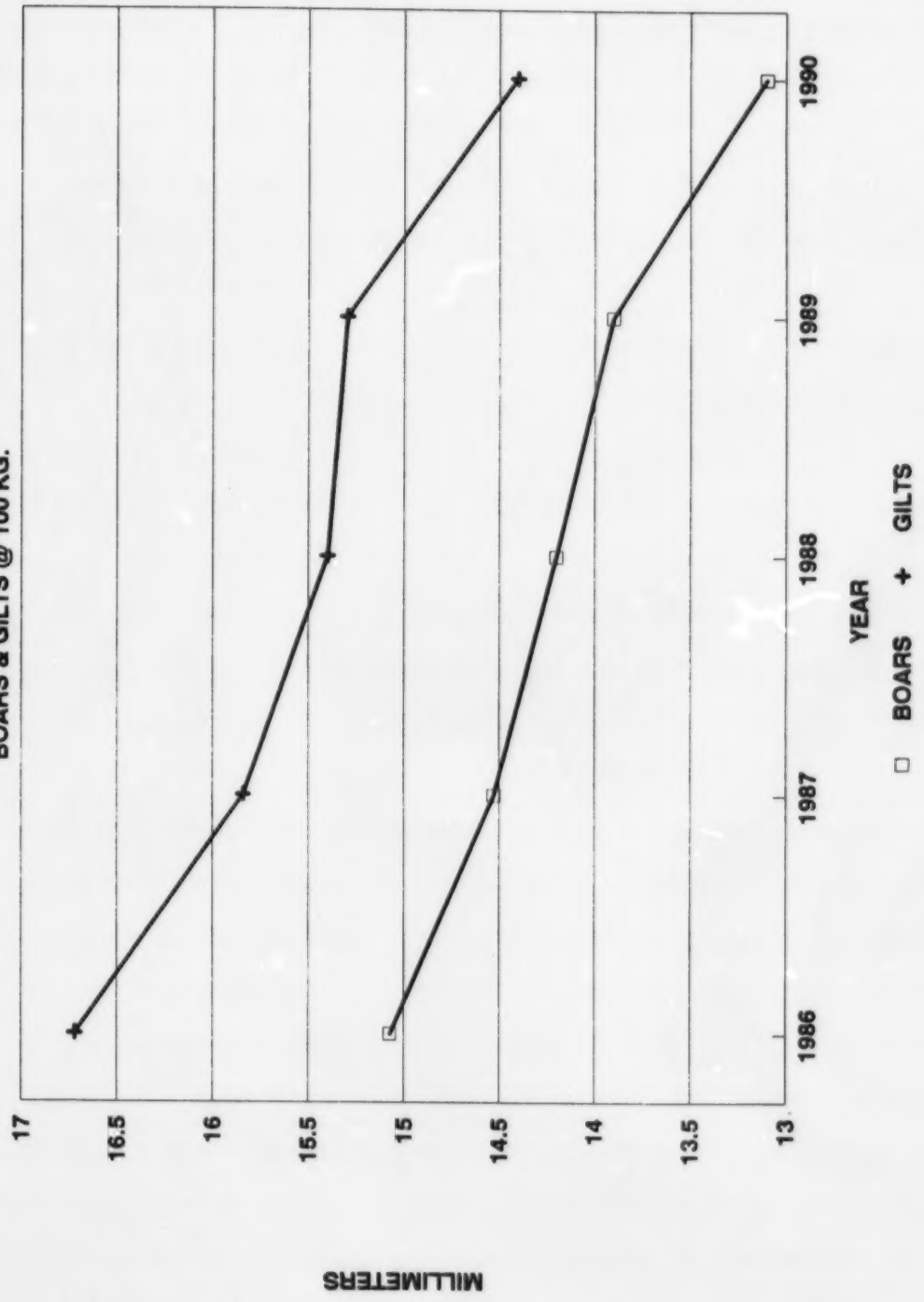
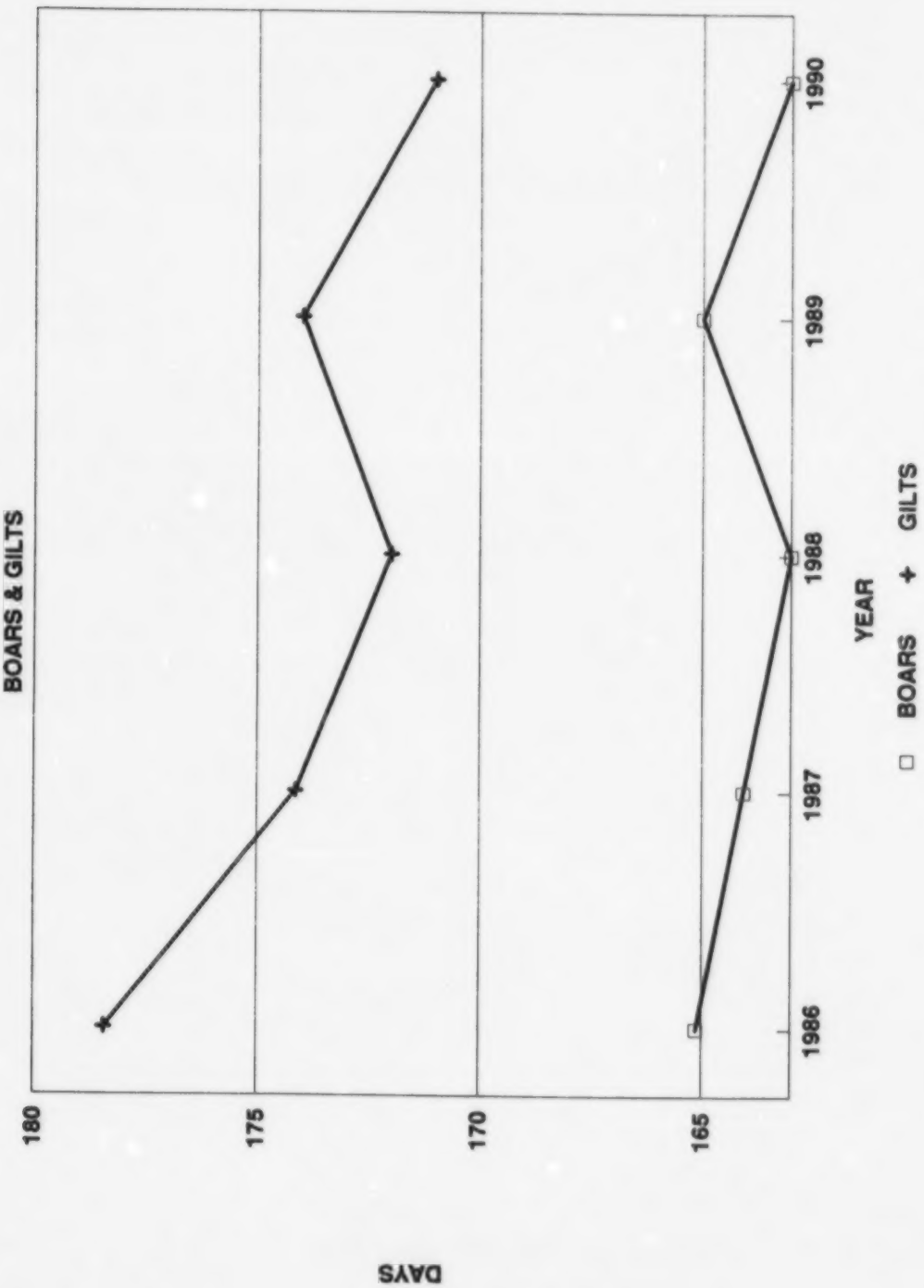


FIG. 4 AGE 100 KG - HOME TEST



The Regional Swine Specialist at Lethbridge, Alan George, serves Region 1 and the east half of Region 2 (Airdrie). He reports that major work areas at provincial and regional levels were:

1. Extension education and advisory functions.
2. Liaison with industry related organizations.
3. Pork Industry Branch programs and resource person for headquarters personnel.
4. Research activity related to the dissemination of research findings and material and the support of On-Farm Demo activities within the region.
5. Regional team activity. Member of the intensive livestock group planning committees of both Region 1 and Region 2.
6. Work with ag-lending institutions in a consulting and advisory role. Revision of the Ag-Lenders' Manual for swine, and conduct the swine section of the Ag-Lenders' Workshop.

A major area of work during the year has been one-to-one consultation in office and farm calls. These constituted 65 office appointments, 58 farm calls and 233 phone discussions with clients. The subject areas have been extensive. Basic management improvement, problem solving, and decision making in the management area have all been involved. Alan's HOGCAAF computer model has again been used extensively over the year to enable clients to analyse their operations and to predict the results of changes in operations or management routines. These consultations usually involve two to three hours with the client and may also include one cr two on-site farm sessions. They enable a client to make viable decisions with a realistic

"bottom line" as the major factor of consideration. He considers them to be a very valuable part of his extension work.

The specialist helped organize a group of provincial seminars, featuring John Gadd, an international consultant, as the main speaker. Seminars were held in Barrhead, St. Paul, Red Deer and Lethbridge. Several farm visits were also coordinated for him. Alan conducted the tour with John, and this was a really good learning experience.

In former years, regional and local meetings and seminars have provided opportunity for extension education on a broader scale. This year, there were very few seminars at the district level. There just did not seem to be the same interest from the districts, and perhaps they were too busy with all the other programs that they are responsible for. The specialist was a member of the Banff seminar organizing committee and gave a minor support paper at Banff.

There are two new swine discussion groups, one meeting regularly every month in Lethbridge, and one meeting in Picture Butte on a less regular basis. The Lethbridge group is primarily owners and ancillary industry people and the Picture Butte is primarily composed of management staff and a couple of producers. Both groups have had specialist support and input at all meetings. The Southern Alberta Hog Producers' Association have had a couple of very good information meetings. They appeared to have had a new lease of life at the end of last year, but so far this year have not been very active.

The Lethbridge Community College livestock facility was used for one A.I. course which was well attended. The specialist taught an evening swine management course for the college, which was well attended with a very regular 13-14 participants. The course ran two evenings a week for six weeks with good response from the participants. He wrote a 110-page manual to support the course.

Alan George has responded with several of the local veterinarians. He has worked with two of the local vets who have specialist swine practices, and has also worked closely with department vets from the regional diagnostic laboratory as a support person on field problems.

He wrote a regular column in the Western Hog Journal, which is still circulated to all hog producers in Western Canada. This column discusses a lot of the issues and problems seen in the field, and is also used to disseminate information on current topics. The PigNews letter, which is an exclusive letter that goes to the Colony bosses, with an extra copy for the pig bosses, has been continued. This letter has a very informal approach and discusses why's and wherefores of the various things that go on in the industry, with an emphasis on improving the profit margin of their units by fine tuning and the adaptation of new management techniques. It continues to receive general good comments from the Hutterites.

He supported the 1990 Red Deer Pork Congress and was involved with the Education program as joint Chairman of the Education Committee. He chaired several of the education program sessions, and put together a live demonstration on types of farrowing crates and their layout and usage. He also organized and presented a discussion on labour in the pig unit. Both of these endeavors were well received.

He has responded with several of the major banking institutes in advising clients and loans officers on the feasibility of loan proposals. He again resourced the swine section of the Ag-Lenders' Workshop organized by the Farm Business Management Branch for 1990 and rewrote the pig section of their manual.

The specialist has continued as a member of the regional on-farm demonstration committee and has actively supported the activities of the on-farm demo program. He has one demonstration which was started last year and is ongoing this year.

The Regional Swine Specialist at Red Deer, Marvin Salomons, serves Region 3 and the west half Region 2. He reports that hog production was quite stable. Over the past year and especially during the latter half, this area of the province saw a steady interest in starting new operations and minor expansions of existing facilities. Producers over the past year have remained fairly optimistic about the pig industry and their futures in it. This area of the province continues to experience a trend towards larger more technologically advanced swine units.

Interest in alternate feed use in pig diets continues. This area has seen high demand for alternate feeds such as peas and condor (hulless) barley. Local swine producers are working closely with grower associations in getting these ingredients accepted in the industry.

Over the past year, several producers have gained a better handle on the financial aspects of their business. Participation in Gear-Up Advantage courses has enabled producers to better assess their current financial-production status. This area has seen many producers become aggressive business people concerned about economics rather than production alone.

The following items are of concern to swine producers and the industry in general (not in order of priority):

1. Role of government and producers in the pig processing industry.
2. Future of pork production in Alberta given predictions about expansion and potential of the Alberta industry and markets.
3. Long term stability of hog prices and input costs for profitable production.
4. Health concerns in the swine unit.
5. Animal welfare issues and its effect on future pig production regulations.
6. Food safety and meat quality.
7. Future of acquiring trained stock people in light of Green Certificate Program termination.

Major extension efforts and accomplishments are as follows:

- Conducted approximately 45 farm calls, 175 office interviews and numerous telephone contacts with producers on all aspects of swine production, management, feeding, housing, breeding, etc. Many contacts were made in conjunction with other specialists, district agriculturists and agribusiness people.

- Assisted ADC, FCC and other lending institutions with approximately 35 client loan evaluations, farm calls and office visits.

- Organized or assisted in the organization of approximately 10 extension meetings to local swine producers (approximately 715 attending). Topics included ration formulation, improving profits, post weaning management, feeder pig management, automated liquid feeding, marketing, alternate feeds.

- Assisted in the planning and promotion of the June 1990 Alberta Pork Congress held in Red Deer (approximate attendance 10,800 producers, agribusiness and consumers). Acted as Chairman of the Education Committee and Director of Board (ex-officio) for the Pork Congress. Organized and resourced education program for approximately 800 producers and agribusiness attending the program over the three day event. Assisted in the organization of two Pork Congress promotional events at St. Vincent and Dutchess. Resourced event at Dutchess outlining programs and membership benefits of Pork Congress.

- Assisted in the promotion and planning of the 1991 Banff Pork Seminar. Attended one general planning meeting. Resourced 1991 seminar speaking on "Practical Experiences with Automated Liquid Feeding".

- With the assistance of the regional livestock specialist and regional agricultural engineer in Region 3, the regional livestock specialist, regional swine specialist and regional agricultural engineer in Region 5 and the provincial food and nutrition specialist wrote and edited a series of bi-monthly newsletters. The newsletter entitled "Beef'n'Bacon" was mailed either directly or through district agriculturist's offices to approximately 4,000 swine and beef producers, veterinarians, feed industry, agricultural agencies, etc. in Regions 3 and 5 and selected readers in the province. "Beef'n'Bacon" is designed as a major livestock program providing extension information on livestock production and management, plus engineering and red meat information to producers involved in pork and beef production. Wrote six articles for the newsletter. Responses to the newsletter remains excellent with distribution in its sixth year of mailing to Region 5 and fourth year to Region 3. Many follow-up calls have been made as a direct result of articles appearing in "Beef'n'Bacon".

- Maintained a regular column (9th year) entitled "Research Reviews" for the Western Hog Journal. Over the past year, wrote 10 research reviews on various subjects of interest for the column. Circulation of the Western Hog Journal is approximately 20,000 in Canada and abroad.

- With the regional agricultural engineer, Region 3 assisted in resourcing the Animal Science 470 class (University of Alberta swine production) in-depth analysis of two local farms from September to December, 1990. Acted as resource team in conducting farm visits and preparation of project reports.

- Completed two on-farm demonstrations re: feeding condor barley to swine. On-farm demonstrations were conducted with producers via the Lacombe and Calgary district offices.

- Organized and conducted a 3-day tour for 25 swine producers from the Michigan Pork Council to local farms, research facilities and agribusiness of interest.

- Participated on a Nutrition and Housing panel at the University of Alberta feeders day.

- Conducted a ration clinic for approximately nine clients at Lacombe.

- Resourced a Green Certificate Workshop at Airdrie for approximately six trainees in the swine program. Resourced topics on ration formulation and marketing swine.

- With Alberta Pork Congress, Pork Industry Branch and other regional swine specialists, organized and resourced a series of four regional swine seminars for approximately 400 producers in Barrhead, St. Paul, Red Deer (185 attended) and Lethbridge. Spoke at the Red Deer session on Improving Profits. Seminar featured international swine consultant John Gadd.

- Assisted in organization and promotion of Alberta Agriculture Quality Feeds Seminar for approximately 130 producers at Lacombe. Featured speakers included Dr. J. Patience and Dr. C. Rhodes, both of Saskatoon.

- Resourced a Western Hog Growers Association meeting in Red Deer. Spoke on Post-Weaning Management.

- Assisted in the development of a 20-minute video on Feeding Peas. Worked in conjunction with other members of Alberta Agriculture, Pulse Growers Association and swine producers in developing this informative and promotional video.

- Assisted with swine A.I. courses for approximately 21 local producers in Lacombe and Ponoka.

- Completed major revisions to Chapter 4 - Feeding and Management for the Alberta Pork Production Home Study Course.

- With the research staff at the Lacombe Research Station, completed a project on two experiments for publication in Applied Animal Behavior Science "The Effect of Environment Enrichment on Aggression in Newly Weaned Pigs".

- Participated as a member of the University of Alberta pig research liaison committee.

- Worked with the Condor Barley Growers Association in developing plans for pricing and promotion of condor barley for use in swine diets.

- Participated as member of an Alberta Swine Industry Professionals Swine Discussion Group.

- Participated as a member of Region 3 regional strategic program steering committee. Acted as chairman for Region 3 swine planning committee and participated as a member of Region 2 intensive livestock planning committee.

The Regional Swine Specialist at Vermilion, Irene Wenger, serves Region 4 of Alberta Agriculture. She was appointed to the position in January and a report of regional activities is not available for the previous year due to a period of vacancy in the position.

The Regional Swine Specialist at Barrhead, Bert Dening, serves Regions 5 and 6. He reports that 1990-91 saw a fair bit of swine barn construction relative to 1989. Most of these new units will have their first pigs on the market in the spring and summer of 1991.

The specialist indicated 1990-91 saw a large increase in swine seminars and a steady amount of farm calls, phone calls and general producer contact. He spoke at 16 producer seminars, went on 122 farm calls, had 480 phone calls, 58 office interviews and sent out 319 letters.

Around 90 producers come to hear John Gadd at a major seminar in March, 1991. A major regional seminar will be run every year in the future.

He wrote articles for six "Beef'n Bacon" publications and sent out 500 "Pig Pointers" to producers in Region 6.

Two swine producer groups are off and running in Region 6 (Peace Region). These are fantastic opportunities for producers to share ideas and interact regarding the swine industry.

Numerous other activities including branch meetings, university tours, factsheets, etc. were carried out by the swine specialist.

The Region 5 and 6 strategic management plans for swine put "reducing the cost per pound of gain" as the overriding goal of all swine extension activities. The plan has some very specific goals with regard to the breeding herd, weaner herd and growing finishing herd.

The activities and programs mentioned in this report were geared to help farmers achieve the goals in the strategic management plan for swine and the Alberta Agriculture mission and goal to increase the long term profitability of primary producers.

POULTRY
BRANCH

General Conditions - Poultry Industry

Nineteen ninety (1990) was a relatively stable year for the poultry industry. The egg, broiler breeder and turkey sectors continued to operate within a national agency.

The chicken board became a voting member of the Canadian Chicken Marketing Agency (C.C.M.A.) in 1990, but British Columbia withdrew two years ago and has increased production, taking traditional markets in British Columbia, Alberta, Saskatchewan and Manitoba.

The move to make quotas salable for the various poultry commodities progressed during the year. The Chicken Producers' Board had earlier approved the sale and transfer of quota without property. A new transfer policy for egg quota was enacted in 1990, with a maximum price of $25.03 per bird. (Quota may now be bought and sold through an exchange held four times a year). As quotas become readily salable without property, there will be some realignment within the industry. A total of 10,892 birds was reallocated to 50 existing producers.

1. Broiler Breeders

Setting of hatching eggs in 1990 was up 5.7% at 52.5 million eggs. During the year, 94% of the eggs set for broiler production were produced in Alberta. Alberta brought in 3,032,825 eggs (up 56%) and shipped 685,506 (up 69%) commercial chicks outside the province. A total of 364,964 female breeder chicks were imported from the U.S.A., an increase of 12%. Average hatchability was 76.49%, up 1.65% from 1989.

2. Eggs

The 1990 total laying flock was 1,760,600 layers, of which 1,472,000 was regulated and 289,000 was unregulated layers. The decrease of 5% in the laying flock is the result of a .003% decrease in regulated, but a major adjustment to the unregulated flock - a 24% decrease.

The production of eggs from Alberta during this period was 36,321,000 dozen, down 4.5% from last year. The unregulated adjustment accounted for this decrease. The rate of lay remained at 21.5 dozen for hens in regulated but increased to 16.2 dozen for hens in unregulated.

The net movement of eggs into the province showed a decrease of 16.3% for a total of 6,782,310 dozen or 130,429 dozen per week to accommodate the market demand for Alberta.

The Canadian Egg Marketing Agency "Buy Back Program" saw a decrease of 23% in 1990 from 1989 from Alberta; 2,231,000 dozen in 1990 compared to 2,901,000 dozen in 1989. The Alberta per capita consumption was 20.8 dozen (1989).

The commercial egg marketings through registered egg stations were 29.6 million dozens in 1990, compared to 32.4 million dozens in 1989, a 10.2% decrease. Producer levy was 16 cents per dozen until August 12, 1990, then 15 cents per dozen.

3. Broilers

Alberta's chicken production in 1990 was 44.6 million kilograms, 8.1 percent above production a year ago.

Broiler production at 39.6 million kilograms was up 7.8 percent from 1989. Roaster production was 2.9 million kilograms, up 30 percent, while cornish was unchanged at 2.1 million kilograms. Production increased in British Columbia by 14% from 1989 to 1990, made possible by their decision to withdraw from the Canadian Chicken Marketing Agency.

Production for Alberta was 44,575,000 kilograms, which is 8.0% of the total Canadian allocation in 1990 of 554,655,000 kilograms. The allocation for Alberta in 1991 was 46,610,000 kilograms or 8.2% of the Canadian allocation. (British Columbia produced 12.5% in 1990, and was allocated 10.8%). The per capita consumption of chicken in Canada in 1990 was 22.3 kilograms.

4. Turkeys

Heavy breed marketing in Alberta increased 18% to 10.3 million kilograms eviscerated equivalent. Light breed production increased 12% to 1.7 million kilograms over 1989.

Domestic production of turkeys in Canada showed an increase of 7.4% over 1989 levels. Per capita consumption was 4.5 kilograms.

Alberta's total turkey marketing allocation from the Canadian Turkey Marketing Agency for 1990 was 14,038,901 kilograms live weight. Actual marketings were 13,825,888 kilograms.

Branch Programs

1. Administration

The Administration Section of the Poultry Branch develops and administers regulations, policies and programs relative to the industry under the Livestock and Livestock Products Act.

This branch provided a number of programs and services designed to increase the long-term profitability of the poultry industry in Alberta.

2. Research

The Poultry Branch continued to assist in the functioning of the University of Alberta poultry research program by serving on the Poultry Research Committee. As part of the five-year agreement, the Poultry Branch provided a grant of $185,000 for applied research to be conducted at the University of Alberta poultry unit. Branch staff were also involved in a number of on-farm demonstrations and research projects related to poultry production conducted under the auspices of the Farming for the Future program.

3. Poultry Health

The purpose of the Poultry Health Program is to monitor and prevent poultry diseases, and to safeguard public health.

In cooperation with the Animal Health Division, all breeder flocks and hatcheries were monitored for salmonella detection and reduction.

This program is designed to increase agriculture production by reducing the number and kinds of disease producing organisms in poultry and their environment with emphasis on salmonella, because of the public health significance of this organism. The resultant increase in production has led to improved income for poultry producers of this province.

The Poultry Health Program is broken down into the following areas:

3.1 Hatchery Sanitation Program

The number of chicken flocks represented by fluff samples totalled 669 sampling times, indicating a monitoring sampling of approximately 6.3 times for each approved hatchery supply flock. Turkey flock representations totalled 33, indicating approximately 6.6 fluff samples per flock approved.

Total No. of Tests	Salmonella Isolated
Chicken 296	S. nienstedten (2) S. hadar (2) S. infantis (2) S. typhimurium (2) S. thompson S. enteriditis
Turkeys 33	

% S. isolations (chickens)

1986	1987	1988	1989	1990
0.98(6)	1.04(6)	1.67(8)	0.57(2)	3.38(10)

% S. isolations (turkeys)

1986	1987	1988	1989	1990
0.00(0)	8.89(4)	6.67(1)	0.00	0.00

Chick fluff samples analyzed were 38 from the Lethbridge area; 34 from the Calgary area; and 224 from the Edmonton area.

Turkey Fluff samples numbered 33 from the Edmonton area.

3.2 Chicken Health Program

The laboratory submissions for 1990 are summarized in the following table. Numbers represent only submissions and not the number of specimens that constitutes a required submission.

TABLE 1 Staff Monitoring of Flock Placements

	Flock Placements			Type of Submissions			
Territory	Broiler	Egg-Type	Total	Rep	Lay	1st Hatch	Total
1 (Leth. Lab)	22	-	22	21	16	15	52
2 (Cal. Lab)	28	6	34	10	21	23	54
3 (Edm. Lab)	30	4	34	22	24	26	72
(Edm. Lab)	22	11	33	27	45	41	113
TOTAL	102	21	123	80	106	105	291

TABLE 2 Percent Chicken Salmonella Isolations

	Sampling			
	Replacement	Laying	1st Hatch	Total
No. of submissions	80	106	105	291
No. of S. positives (+)	5	23	4	32
% positive - 1990	6.2	21.7	3.8	11.0
1989	2.8	26.5	1.0	11.4
1988	6.7	21.0	1.7	9.8
1987	3.3	23.6	3.6	10.8
1986	0.0	29.6	0.0	13.0
*1978	15.8	27.8	0.8	21.2

*start of program

TABLE 3 Summary of Salmonella Serotypes

Replacement	Laying	1st Hatch
S. braenderup	S. anatum	S. agona
S. emsbuettel	S. hadar (2)	S. infantis
S. (not typed) 3	S. heidelberg	S. muechen
	S. infantis (2)	S. (not typed)
	S. kentucky (4)	
	S. nienstedten (5)	
	S. montevideo	
	S. orienberg	
	S. ohio	
	S. thompson (3)	
	S. typhimurium (2)	

Poultry specialists are continuing to work with hatching egg producers to reduce bacterial contamination of eggs at the farm level.

The increase of salmonella organisms from laying submissions to culls 1st hatch is discouraging, and should be zero percent if recommendations under the health programs are followed. A 12-year summary of salmonella isolates, under the Chicken Health Program, was completed this year and sent to producers and hatchery operators.

3.3 Turkey Health Program

	Flock Placements		Type of Submission		Hatches					Total
Terr.	Heavies	Lights	Rep.	Laying	1	2	3	4	5	
1	-	-	-	-	-	-	-	-	-	-
2	1	-	2	2	1	2	-	-	-	7
3	2	-	2	2	2	1	1	-	-	8
4	2	-	2	2	2	2	2	1	-	11
TOTAL	5	-	6	6	5	5	3	1	0	26

Three heavy breeder flocks were placed in Alberta for out of the province egg and poult sales.

S. arizonae was isolated from culls 1st hatch from two breeder flocks. One flock of heavy turkeys was marketed due to tom infertility.

3.4 Hatching Egg Supply Flock Approval

Chickens (Approved)

	No. of Flocks		Average Flock Size		No. of Birds	
Year	Egg	Broiler	Egg	Broiler	Egg	Broiler
1990	25	98	1729	3318	43,229	325,135
1989	34	95	2091	2968	71,102	311,587
1988	37	91	1955	4434	72,340	403,487
1987	26	88	1524	3806	39,631	344,967
1986	48	108	1165	3192	55,931	344,738

Turkeys (Approved)

			Average Flock Size		No. of Birds	
Year	Lights	Heavies	Lights	Heavies	Lights	Heavies
1990	-	5	-	3,340	-	16,700
1989	-	5	-	4,259	-	21,293
1988	-	4	-	4,275	-	17,100
1987	-	4	-	4,087	-	16,349
1986	-	5	-	5,190	-	25,949

4. Rabbit Extension

Rabbit extension information packages were sent to 256 enquiries. Unless specifically requested, farm calls are not made to rabbit producer enquiries - lack of sufficient poultry branch manpower.

Processing figures indicated approximately 5,089 rabbits, mostly fryers, were slaughtered in provincially inspected plants in Alberta in 1990. Increased interest in raising commercial rabbits was most evident during the past year, because fryers are in short supply in the west.

Branch Activities

Branch staff completed the 1989 "Pesticide Residue in Egg Survey". All samples (40), both spring and fall sampling, resulted in insignificant levels of Chlorinated Hydrocarbons and P.C.B.'s detected overall.

Three I.L.T. disease outbreaks were diagnosed throughout Alberta by the Regional Veterinary Laboratories. Producers were visited by the regional poultry specialist in charge of the particular area.

1. Economic Studiess

There is a continual demand for factual and updated information on costs of production.

During this period, the Branch developed cost of production models for shell eggs, broiler chicken, turkeys and broiler breeders. These models are continually updated with current data and cost of production information is used to deal with requests in the area of economics.

A fair amount of time was spent with farmers reviewing and assisting with loan applications. Loan applications came from the Alberta Agricultural Development Corporation., Farm Credit Corporation, and many of the banks asking for reviews and comments.

A number of poultry farms were sold during the year and staff reviewed loan applications and worked with a number of parties before properties were finally sold.

2. Extension

The Branch's role in extension is to interpret and impart to the industry and to the general public, technical, scientific, economic and general information on poultry production. Throughout the year, regional staff members made numerous farm and service calls, poultry health program calls; handled numerous office extension enquiries, plus calls to the allied trade. They attended several meetings including both industry and Departmental.

Branch staff continue to work with a wide range of producers varying from large commercial farms to acreage holders with a few birds. Staff spoke at meetings varying from the specialized Agriculture Lender's Workshop to the small flock seminars and country fairs.

In March, 1991, the Poultry Industry Conference was again held in Red Deer. The Egg Marketing Board, the Hatching Egg Board and the Turkey Marketing Board all held their annual meetings and the Chicken Marketing Board held an information meeting in connection with the Conference. There was a very impressive area of displays set up in conjunction with the Conference. The Poultry Servicemen's Workshop held at Lake Louise in October again drew good attendance and good comment. Major poultry shows were held at Calgary, Edmonton and Lloydminster.

Staff participated in the planning of the University of Alberta Poultry Days held last May, and were on the program.

Alberta Poultry Industry Statistics

Commercial Egg Production and Marketing

Year	Layer (Average/no.)	Total Eggs 1000 Dozen	Value $1000	Producer Av. Wt. Price
1990	1,866,000	37,174	42,253	113
1989	1,917,000	38,248	45,111	118

Poultry Eviscerated in Registered Stations

Chicken (1000 Kilograms)

Year	Under 1 Kg	1-2 Kg	Over 2 Kg	Total
1990	2,074	39,640	2,922	44,636
1989	2,043	36,985	2,244	41,273

Turkey (1000 Kilograms)

Year	Under 5 Kg	5-8 Kg	Over 8 Kg	Mature	Total
1990	1,687	4,849	5,204	211	11,950
1989	1,516	5,310	3,414	184	10,423

Chick and Poultry Placement by Type (Thousands)

	1990	1989
*Egg Production	2,100	2,075
Broiler Chickens	36,893	34,708
Broiler Turkeys	0	55,000
Heavy Turkeys	2,104	1,483,000

*females only

Licensing

Year	First Receivers	Reg. Egg Grading Stations	Reg. Poultry Stations	Egg Packing Stations	Buy & Sell Rejects	Hatcheries	Custom Killing Stations
1990	1	13	7	4	13	12	3
1989	3	13	7	4	14	12	3
1988	2	15	7	0	18	12	2
1987	2	14	11	0	34	12	21
1986	2	17	9	0	32	13	3

Farm Cash Receipts $

	1990	1989
Eggs	43,000,000	44,000,000
Poultry	104,000,000	96,000,000
	147,000,000	140,000,000

Number of Registered Quota Holders

	1990	1989
Eggs - units	225	238
- Average size birds	6,540	6,201
Turkey - producers	70	
- average quota	18,313 kg.	
Broiler breeders	- 98 flocks, 65 farms	
Egg breeders	- 25 flocks, 20 farms	

REGULATORY

SERVICES

BRANCH

The Regulatory Services Branch is responsible for the administration of certain Acts and their respective Regulations. This regulatory function provides a protection service for livestock producers in the following areas:

- Brand inspection services
- Brand registration
- Licensing and bonding of livestock dealers and agents
- Licensing of stockyards and stockyard operators
- Provide for protection of land and agricultural products from livestock running at large
- Conducting investigations of fraudulent trade practices in livestock trading
- Check scales and equipment used in making railgrade settlements on cattle

Through the cooperation with other government sectors, both provincially and federally, and industry organizations, the branch maintains an effective and efficient protection service to the livestock producers of this province against stolen or strayed livestock.

Brand Recording Summary

	Cattle	Horses	Sheep	Total
New brands issued	1,404	252	1	1,657
Transfers	689	66	0	755
Cancelled brands	586	116	0	702
Brands renewed	9,105	1,503	0	10,608
Brands re-issued	159	36	0	206

There were 52,078 brands in good standing as of December 31, 1990.

Cattle	44,753
Horses	7,318
Sheep	7
	52,078

A total of 10,636 cattle, 1,871 horse and one sheep brand renewal notices were received from Systems Development Division in early September and processed by the Stettler office before month end. Final renewal notices (2,336 for cattle brands and 556 for horse brands) were prepared and mailed to owners who had not renewed. During this period, 1,169 cattle, and 367 horse brands were allowed to expire as of March 31, 1991.

There were 51 livestock auction markets and 54 livestock assembly stations in operation. In addition, during the calendar year:

- eight markets were licensed permitting them to hold five sales or less;
- four markets were licensed permitting them to hold nine sales or less;
- two markets were licensed permitting them to hold two sales or less; and
- three markets were licensed permitting them to hold a one-day sale only.

During the year, a total of 3,703,486 head of livestock were brand inspected. This was an increase of 201,559 head from the previous year. There were a total of 896 horse permits issued covering 2,254 horses.

Summary of 1990 Brand Inspection by Areas

Area	Livestock Inspected	% of Livestock Inspected
Calgary	1,137,938	31.0%
Edmonton	613,463	16.7%
Grande Prairie	77,625	2.1%
Lethbridge	828,010	22.6%
Lloydminster	357,955	9.7%
Red Deer	658,916	17.9%

Summary of Kinds of Livestock Marketed for Five Year Period

	1990	1989	1988	1987	1986
Steers	1,377,021	1,307,240	1,265,659	1,143,455	1,046,552
Heifers	948,329	882,894	856,723	805,810	805,942
Cows	389,852	389,183	372,150	366,060	328,124
Calves	665,623	613,944	577,417	543,988	499,327
Bulls	89,452	87,129	81,474	76,250	71,475
Yearlings	182,225	172,536	152,712	177,318	197,170
Buffalo	760	320	108	70	215
Mares	18,867	18,018	24,984	23,494	21,074
Geldings	16.324	16,613	21,952	19,562	17,593
Fillies	2,744	3,191	3,973	4,250	3,350
Stallions	3,180	2,873	4,541	5,600	4,315
Colts	8,669	7,639	4,233	7,426	3,994
Mules	398	330	287	282	279
Misc.	42	17	7	-	-
TOTALS	3,703,486	3,501,927	3,366,220	3,173,565	2,999,410

Comparison of Branded Livestock Inspected for the Last Five Years

	1990	1989	1988	1987	1986
Branded livestock	76.2%	76.5%	76.7%	75.4%	75.1%
Livestock not branded	23.8%	23.5%	23.3%	24.6%	24.9%

Summary of Inspections

Year	Auction Markets	%	Packing Plants	%	Other Inspection	%
1990	2,149,490	58.0	964,991	26.1	589,005	15.9
1989	2,065,107	59.0	941,185	26.9	495,635	14.1
1988	1,975,864	59.0	945,931	28.0	444,425	13.0
1987	1,903,416	60.0	916,486	28.9	353,663	11.1
1986	1,785,025	59.5	874,471	29.2	339,914	11.3

Permanent Brand Inspectors

	# of Inspectors		Lstk. Inspected		Lstk. Insp. Per Man	
Location	1990	1989	1990	1989	1990	1989
Brooks	3.04	2.75	322,460	325,361	106,072	118,313
Calgary	4.85	4.81	182,257	328,894	37,579	68,377
Clyde	4.06	2.60	265,457	228,010	65,384	87,696
Edmonton	5.00	7.50	283,214	307,085	56,643	40,945
Grande Prairie	2.20	2.17	67,831	69,178	30,832	31,879
Hardisty	1.39	1.48	122,944	120,525	88,449	81,436
High River	2.04	2.10	326,569	165,640	160,083	78,876
Lethbridge	7.62	7.24	585,642	540,492	76,856	74,654
Lloydminster	1.00	1.00	92,948	89,641	92,948	89,641
Medicine Hat	1.68	1.66	77,542	65,967	46,156	39,739
Ponoka	2.53	2.38	161,735	180,215	63,927	75,721
Red Deer	5.10	5.31	363,392	329,099	71,253	61,977
Strathmore	1.30	1.00	182,745	105,186	140,573	105,186
Vermilion	1.70	1.50	117,773	104,287	69,278	69,525

During 1990, our brand inspection staff questioned 278,788 head of livestock for bills of sale and held the proceeds on another 32,072 head pending proof of ownership. The proceeds on 6,489 head were released to others than the contributor.

Investigations in 1990 resulted in requests for computer retrievals on brand information and as a result, 927 names and 4,543 brands were pulled.

Cattle Exports - 1990

Month	B.C.	Sask.	Man.	Ont.	Que.	USA	Others	Total
Jan.	2,053	8,085	15	5,403	160	20,527	173	36,416
Feb.	3,409	9,269	4	4,642	233	18,710	143	36,410
Mar.	3,713	9,072	14	10,278	119	26,758	118	50,072
Apr.	4,070	6,230	23	4,357	288	28,714	173	43,855
May	5,182	8,263	9	3,364	320	40,565	98	57,801
June	2,314	4,031	76	2,667	88	33,756	395	43,327
July	1,656	3,708	98	1,394	36	18,556	387	25,835
Aug.	2,913	5,848	-	942	53	18,921	171	28,848
Sept.	1,752	9,016	105	2,342	324	25,426	357	39,322
Oct.	2,618	10,055	228	11,278	64	20,983	367	45,593
Nov.	2,618	9,335	201	10,674	154	8,009	200	31,191
Dec.	1,264	3,603	50	2,857	285	15,965	130	24,154
1990	33,562	86,515	823	60,198	2,124	276,890	2,712	462,824
1989	27,340	95,581	436	82,137	3,592	213,734	3,131	425,951

There were 571 missing or stolen cattle reports received. Following is a summary of these reports for the last four years:

Missing or Stolen Cattle Reports

	1990	1989	1988	1987
Total number of report	571	534	510	561
Number of head reported missing or stolen	1,676	1,466	1,470	1,128
Number found	462	431	444	310
Number not found	1,214	1,035	1,026	818

Under the Stray Animals Act, 716 head of livestock were impounded during the year. A total of 658 head were returned to the rightful owners after they paid the costs of capture, transportation and maintenance. The balance of 58 head were sold by public auction and the net proceeds after costs were deposited into general revenue.

There were 1,000 livestock dealers and agents licensed during 1990 compared to 975 the previous year.

Six branding demonstrations were conducted in various parts of the province with good local participation.

Staff Changes

Several staff changes took place within the branch during the year. Randy Hopp and Roberta Dahl resigned from their respective positions. Ray McColl who was a Deputy Brand Inspector in Brooks joined the branch on a permanent basis and Betty Kiebel was appointed to a permanent position in Stettler.